```
=> d his

     (FILE 'HOME' ENTERED AT 15:35:33 ON 06 MAR 2003)

     FILE 'REGISTRY' ENTERED AT 15:36:32 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 15:37:27 ON 06 MAR 2003

     FILE 'REGISTRY' ENTERED AT 15:38:37 ON 06 MAR 2003

     FILE 'CAPLUS' ENTERED AT 15:44:08 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 15:44:48 ON 06 MAR 2003

     FILE 'USPATFULL' ENTERED AT 15:45:31 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 15:48:10 ON 06 MAR 2003

     FILE 'REGISTRY' ENTERED AT 15:57:42 ON 06 MAR 2003

     FILE 'CAPLUS' ENTERED AT 16:02:58 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 16:04:27 ON 06 MAR 2003
L1              STRUCTURE UPLOADED
L2            0 S L1
L3            0 S L1 FULL

     FILE 'REGISTRY' ENTERED AT 16:05:05 ON 06 MAR 2003
L4              STRUCTURE UPLOADED
L5              STRUCTURE UPLOADED
L6              STRUCTURE UPLOADED
L7         1995 S L4 FULL
L8          116 S L6 FULL
L9          116 S L6  RAN=(103482-46-8,)
L10         116 S L8 OR L9

     FILE 'CAPLUS' ENTERED AT 16:08:06 ON 06 MAR 2003
L11         858 S L7/PREP
L12          16 S L10/RCT
L13           0 S L11 AND L12

=> d ibib ab hitstr
```

L14 ANSWER 1 OF 1 USPATFULL

ACCESSION NUMBER: 2003:24344 USPATFULL
TITLE: Method for synthesizing 5beta, 6beta-epoxides of steroids by a highly beta-selective epoxidation of delta5-unsaturated steroids catalyzed by ketones
INVENTOR(S): Yang, Dan, Hong Kong, HONG KONG
Jiao, Guan-Sheng, College Station, TX, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003018188	A1	20030123
APPLICATION INFO.:	US 2002-91627	A1	20020306 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2001-788201, filed on 16 Feb 2001, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-183396P	20000218 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Sandra B. Weiss, Jones, Day, Reavis & Pogue, 77 West Wacker, Chicago, IL, 60601
NUMBER OF CLAIMS: 63
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 35 Drawing Page(s)
LINE COUNT: 1928
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A general, efficient, and environmentally friendly method is provided for producing mostly .beta.-epoxides of .DELTA..sup.5-unsaturated steroids using certain ketones as the catalyst along with an oxidizing agent, or by using certain dioxiranes. In another aspect of the invention, a method is provided for producing mostly 5.beta.,6.beta.-epoxides of steroids from .DELTA..sup.5-unsaturated steroids having a substituent at the 3.alpha.-position by an epoxidation reaction using a ketone along with an oxidizing agent under conditions effective to generate epoxides, or using a dioxirane under conditions effective to generate epoxides. A whole range of .DELTA..sup.5-unsaturated steroids, bearing different functional groups such as hydroxy, carbonyl, acetyl or ketal group as well as different side chains, were conveniently converted to the corresponding synthetically and biologically interesting 5.beta.,6.beta.-epoxides with excellent .beta.-selectivities and high yields.

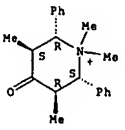
IT 312490-16-7
(prepn. of 5.beta.,6.beta.-epoxides of steroids by .beta.-selective epoxidn. of .DELTA.5-unsatd. steroids catalyzed by ketones)

RN 312490-16-7 USPATFULL
CN Piperidinium, 1,1,3,5-tetramethyl-4-oxo-2,6-diphenyl-, (2R,3S,5R,6S)-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 312490-15-6
CMF C21 H26 N O

Absolute stereochemistry.



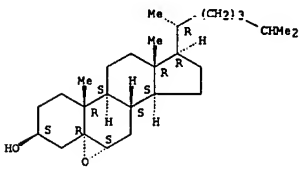
CM 2

CRN 37181-39-8
CMF C F3 O3 S

IT 1250-95-9P 2953-38-0P 4025-59-6P
6215-57-2P 6557-20-6P 6585-70-2P
10338-34-8P 14456-17-8P 14733-13-2P
24116-45-8P 29752-14-5P 31081-85-3P
70214-36-7P 71379-18-5P 117884-67-0P
119525-36-9P 123153-12-8P 312490-18-9P
312490-19-0P 312490-20-3P 488721-74-0P
488721-75-1P
(prepn. of 5.beta.,6.beta.-epoxides of steroids by .beta.-selective epoxidn. of .DELTA.5-unsatd. steroids catalyzed by ketones)

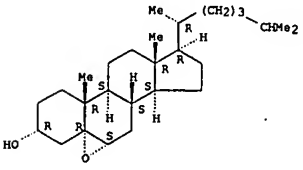
RN 1250-95-9 USPATFULL
CN Cholestan-3-ol, 5,6-epoxy-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



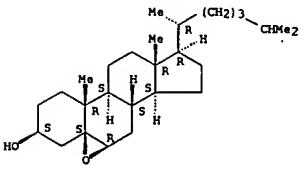
RN 2953-38-0 USPATFULL
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



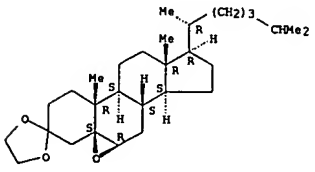
RN 4025-59-6 USPATFULL
CN Cholestan-3-ol, 5,6-epoxy-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



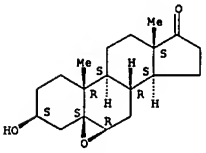
RN 6215-57-2 USPATFULL
CN Cholestan-3-one, 5,6-epoxy-, cyclic 1,2-ethanediyl acetal, (5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



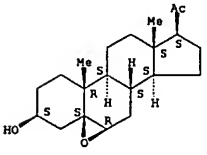
RN 6557-20-6 USPATFULL
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



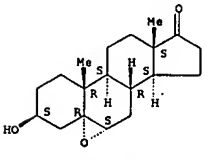
RN 6585-70-2 USPATFULL
CN Pregnan-20-one, 5,6-epoxy-3-hydroxy-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 10338-34-8 USPATFULL
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

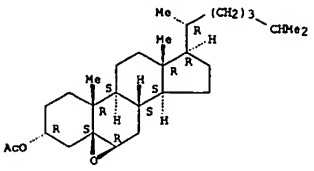
Absolute stereochemistry.



RN 14456-17-8 USPATFULL
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

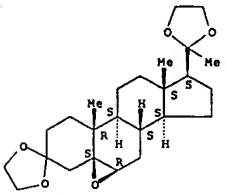
L14 ANSWER 1 OF 1 USPATFULL (Continued)

Absolute stereochemistry.



RN 14733-13-2 USPATFULL
CN Pregnane-3,20-dione, 5,6-epoxy-, cyclic bis(1,2-ethanediyl acetal), (5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

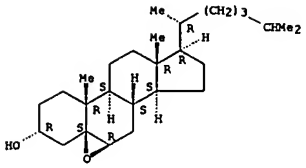
Absolute stereochemistry.



RN 24116-45-8 USPATFULL
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

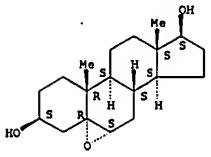
Absolute stereochemistry.

L14 ANSWER 1 OF 1 USPATFULL (Continued)



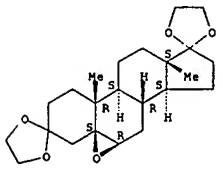
RN 29752-14-5 USPATFULL
CN Androstane-3,17-diol, 5,6-epoxy-, (3.beta.,5.alpha.,6.alpha.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 31081-85-3 USPATFULL
CN Androstane-3,17-dione, 5,6-epoxy-, cyclic bis(1,2-ethanediyl acetal), (5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

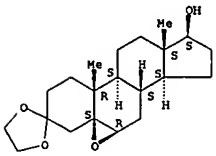
Absolute stereochemistry.



RN 70214-36-7 USPATFULL
CN Androstan-3-one, 5,6-epoxy-17-hydroxy-, cyclic 1,2-ethanediyl acetal,

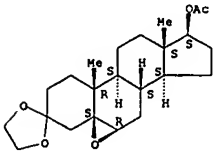
L14 ANSWER 1 OF 1 USPATFULL (Continued)
(5.beta.,6.beta.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



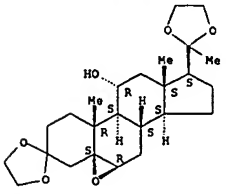
RN 71379-18-5 USPATFULL
CN Androstan-3-one, 17-(acetyloxy)-5,6-epoxy-, cyclic 3-(1,2-ethanediyl acetal), (5.beta.,6.beta.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 117884-67-0 USPATFULL
CN Pregnane-3,20-dione, 5,6-epoxy-11-hydroxy-, cyclic bis(1,2-ethanediyl acetal), (5.beta.,6.beta.,11.alpha.)- (9CI) (CA INDEX NAME)

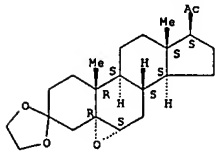
Absolute stereochemistry.



RN 119525-36-9 USPATFULL
CN Pregnane-3,20-dione, 5,6-epoxy-, cyclic 3-(1,2-ethanediyl acetal), (5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

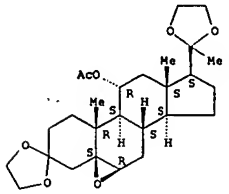
L14 ANSWER 1 OF 1 USPATFULL (Continued)

Absolute stereochemistry.



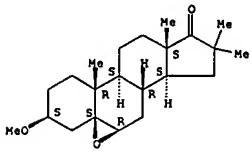
RN 123153-12-8 USPATFULL
CN Pregnane-3,20-dione, 11-(acetyloxy)-5,6-epoxy-, cyclic 3,20-bis(1,2-ethanediyl acetal), (5.beta.,6.beta.,11.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 312490-18-9 USPATFULL
CN Androstan-17-one, 5,6-epoxy-3-methoxy-16,16-dimethyl-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

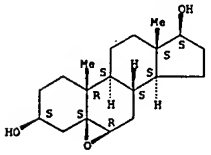
Absolute stereochemistry.



RN 312490-19-0 USPATFULL
CN Androstane-3,17-diol, 5,6-epoxy-, (3.beta.,5.beta.,6.beta.,17.beta.)- (9CI) (CA INDEX NAME)

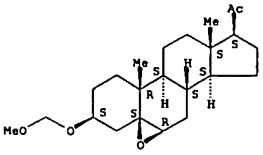
L14 ANSWER 1 OF 1 USPATFULL (Continued)

Absolute stereochemistry.



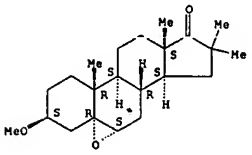
RN 312490-20-3 USPATFULL
CN Pregnan-20-one, 5,6-epoxy-3-(methoxymethoxy)-, (3.beta.,5.beta.,6.beta.)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 488721-74-0 USPATFULL
CN Androstan-17-one, 5,6-epoxy-3-methoxy-16,16-dimethyl-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

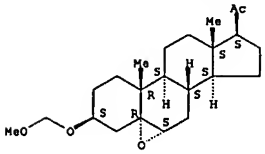
Absolute stereochemistry.



RN 488721-75-1 USPATFULL
CN Pregnan-20-one, 5,6-epoxy-3-(methoxymethoxy)-, (3.beta.,5.alpha.,6.alpha.)-

L14 ANSWER 1 OF 1 USPATFULL (Continued)
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d ibib ab hitstr 1-30

L9 ANSWER 1 OF 30 USPATFULL
ACCESSION NUMBER: 2003:24344 USPATFULL
TITLE: Method for synthesizing 5beta, 6beta-epoxides of steroids by a highly beta-selective epoxidation of delta5-unsaturated steroids catalyzed by ketones
INVENTOR(S): Yang, Dan, Hong Kong, HONG KONG
Jiao, Guan-Sheng, College Station, TX, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003018188	A1	20030123
APPLICATION INFO.:	US 2002-91627	A1	20020306 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2001-788201, filed on 16 Feb 2001, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-183396P	20000218 (60)

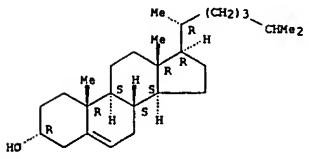
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Sandra B. Weiss, Jones, Day, Reavis & Pogue, 77 West Wacker, Chicago, IL, 60601
NUMBER OF CLAIMS: 63
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 35 Drawing Page(s)
LINE COUNT: 1928
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A general, efficient, and environmentally friendly method is provided for producing mostly .beta.-epoxides of .DELTA..sup.5-unsaturated steroids using certain ketones as the catalyst along with an oxidizing agent, or by using certain dioxiranes. In another aspect of the invention, a method is provided for producing mostly 5.beta.,6.beta.-epoxides of steroids from .DELTA..sup.5-unsaturated steroids having a substituent at the 3.alpha.-position by an epoxidation reaction using a ketone along with an oxidizing agent under conditions effective to generate epoxides, or using a dioxirane under conditions effective to generate epoxides. A whole range of .DELTA..sup.5-unsaturated steroids, bearing different functional groups such as hydroxy, carbonyl, acetyl or ketal group as well as different side chains, were conveniently converted to the corresponding synthetically and biologically interesting 5.beta.,6.beta.-epoxides with excellent .beta.-selectivities and high yields.

IT 474-77-1 1059-85-4
(prepn. of 5.beta.,6.beta.-epoxides of steroids by .beta.-selective epoxidn. of .DELTA.5-unsatd. steroids catalyzed by ketones)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

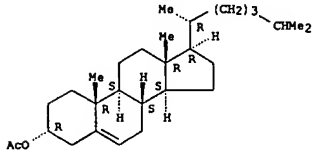
Absolute stereochemistry.

L9 ANSWER 1 OF 30 USPATFULL (Continued)



RN 1059-85-4 USPATFULL
CN Cholest-5-en-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 2 OF 30 USPATFULL
ACCESSION NUMBER: 2002:259428 USPATFULL
TITLE: Androstane steroids as neurochemical initiators of change in human hypothalamic function and related pharmaceutical compositions and methods
INVENTOR(S): Berliner, David L., Atherton, CA, UNITED STATES
Adams, Nathan William, Salt Lake City, UT, UNITED STATES
Jennings-White, Clive L., Salt Lake City, UT, UNITED STATES

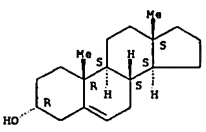
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002143001	A1	20021003
APPLICATION INFO.:	US 2001-922216	A1	20010803 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-249462, filed on 12 Feb 1999, ABANDONED Continuation of Ser. No. US 1996-654021, filed on 28 May 1996, PATENTED Continuation-in-part of Ser. No. US 1993-127908, filed on 28 Sep 1993, ABANDONED Continuation-in-part of Ser. No. US 1992-903525, filed on 24 Jun 1992, ABANDONED Continuation-in-part of Ser. No. US 1991-707862, filed on 31 May 1991, ABANDONED Continuation-in-part of Ser. No. US 1991-638743, filed on 7 Jan 1991, ABANDONED		

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HELLER EHRMAN WHITE & MCAULIFFE LLP, 275 MIDDLEFIELD ROAD, MENLO PARK, CA, 94025-3506
NUMBER OF CLAIMS: 53
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 1502
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a method of altering hypothalamic function in an individual. The method comprises nasally administering a human semiochemical, e.g. an Androstane steroid, or a pharmaceutical composition containing a semiochemical, such that the ligand semiochemical binds to a specific neuroepithelial receptor. The steroid or steroids is/are preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers. Other embodiments of the invention include pharmaceutical compositions containing the steroids.

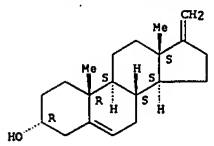
IT 5232-33-7P 161061-90-1P
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 2 OF 30 USPATFULL (Continued)
RN 161061-90-1 USPATFULL
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

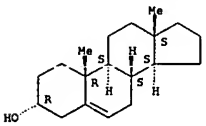


L9 ANSWER 3 OF 30 USPATFULL
ACCESSION NUMBER: 2002:192317 USPATFULL
TITLE: Novel androstanes for inducing hypothalamic effects
INVENTOR(S): Berliner, David L., Atherton, CA, UNITED STATES
Adams, Nathan W., Salt Lake City, UT, UNITED STATES
Jennings-White, Clive L., Salt Lake City, UT, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002103391	A1	20020801
APPLICATION INFO.:	US 2001-803378	A1	20010309 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1998-220644, filed on 24 Dec 1998, ABANDONED Continuation of Ser. No. US 1994-316435, filed on 29 Sep 1994, PATENTED Continuation-in-part of Ser. No. US 1993-127908, filed on 28 Sep 1993, ABANDONED Continuation-in-part of Ser. No. US 1992-903525, filed on 24 Jun 1992, ABANDONED Continuation-in-part of Ser. No. US 1991-707862, filed on 31 May 1991, ABANDONED Continuation-in-part of Ser. No. US 1991-638743, filed on 7 Jan 1991, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HELLER EHRMAN WHITE & MCAULIFFE LLP, 275 MIDDLEFIELD ROAD, MENLO PARK, CA, 94025-3506
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 25 Drawing Page(s)
LINE COUNT: 1743
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to novel, androstane steroids which are the ligand semiochemicals which bind to neuroepithelial receptors.
IT 5232-33-7P 161061-90-1P
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

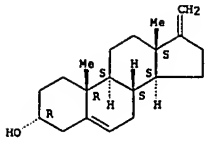
Absolute stereochemistry.



RN 161061-90-1 USPATFULL
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 3 OF 30 USPATFULL (Continued)



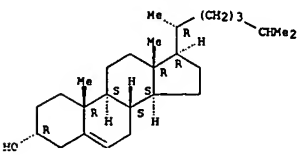
L9 ANSWER 4 OF 30 USPATFULL
ACCESSION NUMBER: 2002:178548 USPATFULL
TITLE: Selective destruction of cells infected with human immunodeficiency virus
INVENTOR(S): Keener, William K., Idaho Falls, ID, UNITED STATES
Ward, Thomas E., Idaho Falls, ID, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002094334	A1	20020718
APPLICATION INFO.:	US 2001-785921	A1	20010615 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-182759P	20000216 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Stephen R Christian, Bechtel BWXT Idaho, LLC, P O Box 1625, Idaho Falls, ID, 83415-3899
NUMBER OF CLAIMS: 45
EXEMPLARY CLAIM: 1
LINE COUNT: 2066
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for selectively killing a cell containing a viral protease are disclosed. The composition is a variant of a protein synthesis inactivating toxin wherein a viral protease cleavage site is interposed between the A and B chains. The variant of the type II ribosome-inactivating protein is activated by digestion of the viral protease cleavage site by the specific viral protease. The activated ribosome-inactivating protein then kills the cell by inactivating cellular ribosomes. A preferred embodiment of the invention is specific for human immunodeficiency virus (HIV) and uses ricin as the ribosome-inactivating protein. In another preferred embodiment of the invention, the variant of the ribosome-inactivating protein is modified by attachment of one or more hydrophobic agents. The hydrophobic agent facilitates entry of the variant of the ribosome-inactivating protein into cells and can lead to incorporation of the ribosome-inactivating protein into viral particles. Still another preferred embodiment of the invention includes a targeting moiety attached to the variants of the ribosome-inactivating protein to target the agent to HIV infectable cells.
IT 474-77-1, Epicholesterol
(as hydrophobic agent; selective destruction of cells infected with human immunodeficiency virus by protein synthesis inactivating toxins)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



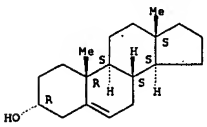
L9 ANSWER 4 OF 30 USPATFULL (Continued)

L9 ANSWER 5 OF 30 USPATFULL
ACCESSION NUMBER: 2002:45605 USPATFULL
TITLE: Estrenes for inducting hypothalamic effects
INVENTOR(S): Berliner, David L., Atherton, CA, United States
Adams, Nathan W., Salt Lake City, UT, United States
Jennings-White, Clive L., Salt Lake City, UT, United States
PATENT ASSIGNEE(S): Pherin Pharmaceuticals, Inc., Mountain View, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6352980	B1	20020305
APPLICATION INFO.:	US 1999-399977		19990921 (9)

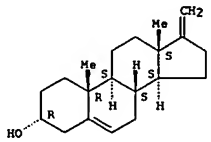
RELATED APPLN. INFO.: Continuation of Ser. No. US 1995-469197, filed on 6 Jun 1995, now patented, Pat. No. US 5994568 Division of Ser. No. US 1994-316050, filed on 29 Sep 1994, now abandoned Continuation-in-part of Ser. No. US 1993-127980, filed on 28 Sep 1993, now patented, Pat. No. US 5783571 Continuation-in-part of Ser. No. US 1992-903525, filed on 24 Jun 1992, now abandoned Continuation-in-part of Ser. No. US 1991-707862, filed on 31 May 1991, now abandoned Continuation-in-part of Ser. No. US 1991-638743, filed on 7 Jan 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Badio, Barbara P.
LEGAL REPRESENTATIVE: Heller Ehrman White & McAuliffe LLP
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 69 Drawing Figure(s); 38 Drawing Page(s)
LINE COUNT: 2098
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to estrene steroids, which bind to neuroepithelial receptors. The steroid is preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers.
IT **5232-33-7P 161061-90-1P**
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 5 OF 30 USPATFULL (Continued)
RN 161061-90-1 USPATFULL
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



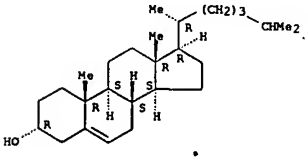
L9 ANSWER 6 OF 30 USPATFULL
ACCESSION NUMBER: 2002:22456 USPATFULL
TITLE: Formulation of amphiphilic heparin derivatives for enhancing mucosal absorption
INVENTOR(S): Byun, Youngre, Chulanam-do, KOREA, REPUBLIC OF
Lee, Yong-Kyu, Puk-ku, KOREA, REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002013292	A1	20020131
APPLICATION INFO.:	US 2001-852131	A1	20010509 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	KR 1998-19469	19980528

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: ALAN J HOWARTH, PO BOX 1909, SANDY, UT, 84091
NUMBER OF CLAIMS: 40
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 1043
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Formulations for enhanced mucosal absorption of heparin are disclosed. In one preferred embodiment, an amphiphilic heparin derivative composed of heparin covalently bonded to a hydrophobic agent is dissolved in a water phase, the water phase is then dispersed in an organic phase such that an emulsion is formed, and then the emulsion is dried to obtain a powdered composition. In another embodiment, the amphiphilic heparin derivative is dissolved in water or a water/organic co-solvent, the water or co-solvent is then dispersed in an oil phase, and then the water or co-solvent is evaporated, resulting in the amphiphilic heparin derivative dispersed in the oil phase. In another embodiment, the amphiphilic heparin derivative is dissolved in an aqueous solvent, a surfactant is mixed with the aqueous solvent and nanoparticles of the amphiphilic heparin derivative are disrupted, resulting in nanoparticles having surfactant molecules associated with the hydrophobic agent on the outside of the nanoparticles. Compositions made according to these methods are also described.
IT **474-77-1P**, Epicholesterol
(conjugate; prepn. and anticoagulant activity of amphiphilic heparin conjugates)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



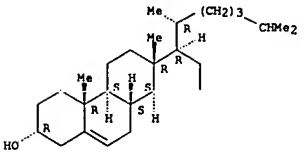
L9 ANSWER 6 OF 30 USPATFULL (Continued)

L9 ANSWER 7 OF 30 USPATFULL
ACCESSION NUMBER: 2002:17273 USPATFULL
TITLE: Oral delivery of macromolecules
INVENTOR(S): Byun, Youngro, Gwangju, KOREA, REPUBLIC OF
Lee, Yong-Kyu, Gwangju, KOREA, REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002010153	A1	20020124
APPLICATION INFO.:	US 2001-845827	A1	20010430 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-300173, filed on 27 Apr 1999, GRANTED, Pat. No. US 6245753
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: ALAN J HOWARTH, PO BOX 1909, SANDY, UT, 84091
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Page(s)
LINE COUNT: 831
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Polysaccharides, which are widely used as an anticoagulation drugs, especially heparin, are clinically administered only by intravenous or subcutaneous injection because of their strong hydrophilicity and high negative charge. Amphiphilic heparin derivatives were synthesized by conjugation to bile acids, sterols, and alkanoic acids, respectively. These heparin derivatives were slightly hydrophobic, exhibited good solubility in water, and have high anticoagulation activity. These slightly hydrophobic heparin derivatives are efficiently absorbed in the gastrointestinal tract and can be used in oral dosage forms. Methods of using these amphiphilic heparin derivatives and similarly modified macromolecules for oral administration are also disclosed.
IT 474-77-1D, Epicholesterol, reaction products with polysaccharides
(oral delivery of macromols.)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 8 OF 30 USPATFULL
ACCESSION NUMBER: 2001:86455 USPATFULL
TITLE: Amphiphilic polysaccharide derivatives
INVENTOR(S): Byun, Youngro, Kwangju, Korea, Republic of
Lee, Yong-Kyu, Kwangju, Korea, Republic of
PATENT ASSIGNEE(S): Mediplex Corporation, Korea, Seoul, Korea, Republic of (non-U.S. corporation)

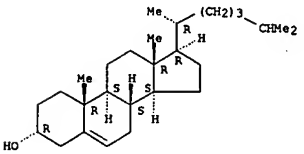
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6245753	B1	20010612
APPLICATION INFO.:	US 1999-300173		19990427 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	KR 1998-19469	19980528

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Fonda, Kathleen K.
LEGAL REPRESENTATIVE: Clayton, Howarth & Cannon, P.C.
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 629
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Polysaccharides, which are widely used as an anticoagulation drugs, especially heparin, are clinically administered only by intravenous or subcutaneous injection because of their strong hydrophilicity and high negative charge. Amphiphilic heparin derivatives were synthesized by conjugate to bile acids, sterols, and alkanoic acids, respectively. The hydrophobicity of the heparin derivatives depended on the feed mole ratio of heparin to hydrophobic agent. The heparin derivatives were slightly hydrophobic and exhibited good solubility in a water-acetone solvent, as well as water. The heparin derivatives have a high anticoagulant activity. These slightly hydrophobic heparin derivatives can be absorbed in gastric intestinal tract and can be used as oral dosage form. Also, the heparin derivatives can be used for the surface modification to prevent anticoagulation for medical devices such as extracorporeal devices and implanted devices.
IT 474-77-1P, Epicholesterol
(conjugate; prepn. and anticoagulant activity of amphiphilic heparin conjugates)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 8 OF 30 USPATFULL (Continued)



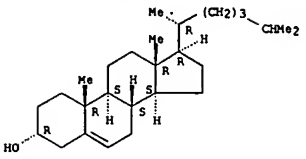
L9 ANSWER 9 OF 30 USPATFULL
ACCESSION NUMBER: 2001:25659 USPATFULL
TITLE: Method and compositions for disrupting the epithelial barrier function
INVENTOR(S): Thornfeldt, Carl R., Nampa, ID, United States
Elias, Peter M., Muir Beach, CA, United States
Feingold, Kenneth R., Saan Rafael, CA, United States
Holleran, Walter M., San Francisco, CA, United States
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)
Cellegy Pharmaceuticals, Inc., Foster City, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6190894	B1 *	20010220
APPLICATION INFO.:	US 1998-58401		19980409 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1996-733712, filed on 23 Oct 1996, now abandoned Continuation-in-part of Ser. No. US 1994-260559, filed on 16 Jun 1994, now abandoned Continuation-in-part of Ser. No. US 1993-33811, filed on 19 Mar 1993, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lankford, Jr., Leon B.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 82
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 9 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1469
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for disrupting epithelial barrier function in a host in need of the topical administration of a physiologically active substance which comprises applying to the epithelium of the host, barrier-disrupting amount of at least one agent selected from the group consisting of an inhibitor of ceramide synthesis, inhibitor of acylceramide synthesis, inhibitor of glucosylceramide synthesis, and inhibitor of sphingomyelin synthesis, an inhibitor of fatty acid synthesis, an inhibitor of cholesterol synthesis, a degradation enzyme of ceramides, acylceramide, glucosylceramides, sphingomyelin, an inhibitor of phospholipid, glycosphingolipid, including glucosylceramide, acylceramide or sphingomyelin degradation, and both inhibitors and stimulators of metabolic enzymes of free fatty acids, ceramide, and cholesterol, as well as a topical composition useful therefore are disclosed.
IT 474-77-1, Epicholesterol
(permeation enhancement of topical pharmaceuticals by inducing phase sepn. of epithelial lipid bilayers)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 9 OF 30 USPATFULL (Continued)



L9 ANSWER 10 OF 30 USPATFULL

ACCESSION NUMBER: 2000:146362 USPATFULL
TITLE: Estrene steroids as neurochemical initiators of change in human hypothalamic function and related pharmaceutical compositions
INVENTOR(S): Berliner, David L., Atherton, CA, United States
Adams, Nathan William, Salt Lake City, UT, United States
Jennings-White, Clive L., Salt Lake City, UT, United States
PATENT ASSIGNEE(S): Pherin Corporation, Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6140316		20001031
APPLICATION INFO.:	US 1998-113845		19980721 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1993-127980, filed on 28 Sep 1993, now patented, Pat. No. US 5783571 which is a continuation-in-part of Ser. No. US 1991-903525, filed on 24 Jun 1991, now abandoned And a continuation-in-part of Ser. No. US 1991-707862, filed on 31 May 1991, now abandoned And a continuation-in-part of Ser. No. US 1991-638743, filed on 7 Jan 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Cook, Rebecca
LEGAL REPRESENTATIVE: Heller Ehrman White & McAuliffe LLP
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 12 Drawing Page(s)
LINE COUNT: 1439
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

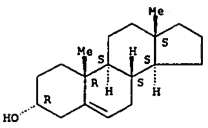
AB .The invention relates to a method of altering hypothalamic function in an individual. The method comprises nasally administering a human semiochemical, e.g. an Estrene steroid, or a pharmaceutical composition containing an Estrene steroid, such that the ligand semiochemical binds to a specific neuroepithelial receptor. The steroid is preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers. Other embodiments of the invention include pharmaceutical compositions containing the steroids.

IT 5232-33-7P 161061-90-1P
(androstane-induced human hypothalamic function alteration via nasal administration)

RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

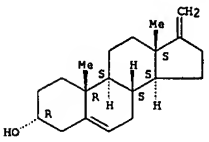
Absolute stereochemistry.

L9 ANSWER 10 OF 30 USPATFULL (Continued)



RN 161061-90-1 USPATFULL
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 11 OF 30 USPATFULL

ACCESSION NUMBER: 2000:1866 USPATFULL
TITLE: Angiostatic steroids
INVENTOR(S): Clark, Abbot F., Arlington, TX, United States
Conrow, Raymond E., Fort Worth, TX, United States
PATENT ASSIGNEE(S): Alcon Laboratories, Inc., Fort Worth, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6011023		20000104
APPLICATION INFO.:	US 1997-924419		19970827 (8)

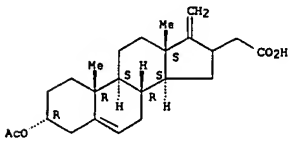
RELATED APPLN. INFO.: Continuation of Ser. No. US 232185
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Kelly, C. H.
LEGAL REPRESENTATIVE: Yeager, Sally
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 1359
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and compositions for preventing and treating neovascularization with steroids is disclosed.

IT 252684-25-6
(angiostatic steroids methods and compns. for prevention and treatment of neovascularization)

RN 252684-25-6 USPATFULL
CN Androst-5-ene-16-acetic acid, 3-(acetyloxy)-17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

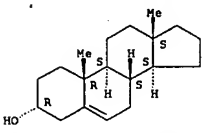


L9 ANSWER 12 OF 30 USPATFULL
ACCESSION NUMBER: 1999:155951 USPATFULL
TITLE: Estrenes for inducing hypothalamic effects
INVENTOR(S): Berliner, David L., Atherton, CA, United States
Adams, Nathan W., Salt Lake City, UT, United States
Jennings-White, Clive L., Salt Lake City, UT, United States
PATENT ASSIGNEE(S): Pherin Corporation, Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5994568		19991130
APPLICATION INFO.:	US 1995-469197		19950606 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-316050, filed on 29 Sep 1994, now abandoned which is a continuation-in-part of Ser. No. US 1993-127980, filed on 28 Sep 1993, now patented, Pat. No. US 5783571 which is a continuation-in-part of Ser. No. US 1992-903525, filed on 24 Jun 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-707862, filed on 31 May 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-638743, filed on 7 Jan 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Cook, Rebecca
LEGAL REPRESENTATIVE: Heller Ehrman White & McAuliffe
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 34 Drawing Figure(s); 38 Drawing Page(s)
LINE COUNT: 1791
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to estrene steroids, which bind to neuroepithelial receptors. The steroid is preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers.
IT **5232-33-7P 161061-90-1P**
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

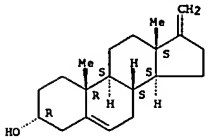
Absolute stereochemistry.



RN 161061-90-1 USPATFULL

L9 ANSWER 12 OF 30 USPATFULL (Continued)
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



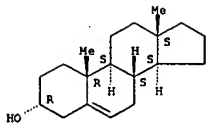
L9 ANSWER 13 OF 30 USPATFULL
ACCESSION NUMBER: 1999:124888 USPATFULL
TITLE: Androstane steroids as neurochemical initators of change in human hypothalamic compositions and methods
INVENTOR(S): Berliner, David L., Atherton, CA, United States
Adams, Nathan William, Salt Lake City, UT, United States
Jennings-White, Clive L., Salt Lake City, UT, United States
PATENT ASSIGNEE(S): Pherin Pharmaceuticals, Inc., Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5965552		19991012
APPLICATION INFO.:	US 1998-212735		19981215 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1996-654021, filed on 28 May 1996, now patented, Pat. No. US 5883087 which is a continuation of Ser. No. US 1993-127908, filed on 28 Sep 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-903604, filed on 24 Jun 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-708936, filed on 31 May 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-638185, filed on 7 Jan 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Dees, Jose' G.
ASSISTANT EXAMINER: Badio, Barbara
LEGAL REPRESENTATIVE: Heller Ehrman White & McAuliffe
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 31 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 1402
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a method of altering hypothalamic function in an individual. The method comprises nasally administering a human semiochemical, e.g. an Androstane steroid, or a pharmaceutical composition containing a semiochemical, such that the ligand semiochemical binds to a specific neuroepithelial receptor. The steroid or steroids is/are preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers. Other embodiments of the invention include pharmaceutical compositions containing the steroids.
IT **5232-33-7P 161061-90-1P**
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

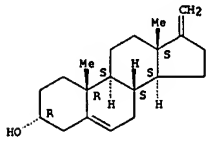
Absolute stereochemistry.

L9 ANSWER 13 OF 30 USPATFULL (Continued)



RN 161061-90-1 USPATFULL
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

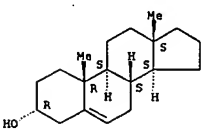


L9 ANSWER 14 OF 30 USPATFULL
ACCESSION NUMBER: 1999:96521 USPATFULL
TITLE: Estrenes for inducing hypothalamic effects
INVENTOR(S): Berliner, David L., Atherton, CA, United States
Adams, Nathan W., Salt Lake City, UT, United States
Jennings-White, Clive L., Salt Lake City, UT, United States
PATENT ASSIGNEE(S): Pherin Corporation, Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5939570		19990817
APPLICATION INFO.:	US 1997-868852		19970604 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-316050, filed on 29 Sep 1994, now abandoned which is a continuation-in-part of Ser. No. US 1993-127980, filed on 28 Sep 1993, now patented, Pat. No. US 5783571 which is a continuation-in-part of Ser. No. US 1992-903525, filed on 24 Jun 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-707862, filed on 19 May 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-638743, filed on 19 Jan 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Cook, Rebecca
LEGAL REPRESENTATIVE: Heller Ehrman White & McAuliffe
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 68 Drawing Figure(s); 38 Drawing Page(s)
LINE COUNT: 2017
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to estrene steroids, which bind to neuroepithelial receptors. The steroid is preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers.
IT 5232-33-7P 161061-90-1P
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

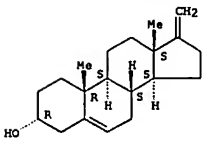
Absolute stereochemistry.



RN 161061-90-1 USPATFULL

L9 ANSWER 14 OF 30 USPATFULL (Continued)
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

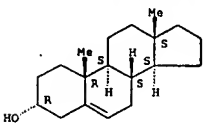


L9 ANSWER 15 OF 30 USPATFULL
ACCESSION NUMBER: 1999:81965 USPATFULL
TITLE: Estrenes for inducing hypothalamic effects
INVENTOR(S): Berliner, David L., Atherton, CA, United States
Adams, Nathan W., Salt Lake City, UT, United States
Jennings-White, Clive L., Salt Lake City, UT, United States
PATENT ASSIGNEE(S): Pherin Corporation, Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5925774		19990720
APPLICATION INFO.:	US 1995-460133		19950601 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-316050, filed on 29 Sep 1994, now abandoned which is a continuation-in-part of Ser. No. US 1993-127980, filed on 28 Sep 1993, now patented, Pat. No. US 5783571 which is a continuation-in-part of Ser. No. US 1992-903525, filed on 24 Jun 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-707862, filed on 31 May 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-638743, filed on 7 Jan 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Cook, Rebecca
LEGAL REPRESENTATIVE: Heller Ehrman White & McAuliffe
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 34 Drawing Figure(s); 38 Drawing Page(s)
LINE COUNT: 1940
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to estrene steroids, which bind to neuroepithelial receptors. The steroid is preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers.
IT 5232-33-7P 161061-90-1P
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

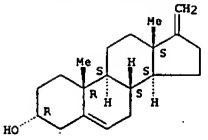
Absolute stereochemistry.



RN 161061-90-1 USPATFULL
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 15 OF 30 USPATFULL (Continued)



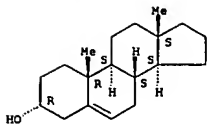
L9 ANSWER 16 OF 30 USPATFULL
ACCESSION NUMBER: 1999:33990 USPATFULL
TITLE: Androstane steroids as neurochemical initiators of change in human hypothalamic function and related pharmaceutical compositions and methods
INVENTOR(S): Berliner, David L., Atherton, CA, United States
Adams, Nathan William, Salt Lake City, UT, United States
Jennings-White, Clive L., Salt Lake City, UT, United States
PATENT ASSIGNEE(S): Pherin Corporation, Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5883087		19990316
APPLICATION INFO.:	US 1996-654021		19960528 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1993-127908, filed on 28 Sep 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-903604, filed on 24 Jun 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-708936, filed on 31 May 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-638185, filed on 7 Jan 1991, now abandoned		

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Robinson, Allen J.
ASSISTANT EXAMINER: Badio, Barbara
LEGAL REPRESENTATIVE: Heller Ehrman White & McAuliffe
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 31 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 1334
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a method of altering hypothalamic function in an individual. The method comprises nasally administering a human semiochemical, e.g. an Androstane steroid, or a pharmaceutical composition containing a semiochemical, such that the ligand semiochemical binds to a specific neuroepithelial receptor. The steroid or steroids is/are preferably administered in the form of a pharmaceutical composition containing one or more pharmaceutically acceptable carriers. Other embodiments of the invention include pharmaceutical compositions containing the steroids.
IT **5232-33-7P 161061-90-1P**
(androstane-induced human hypothalamic function alteration via nasal administration)
RN 5232-33-7 USPATFULL
CN Androst-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

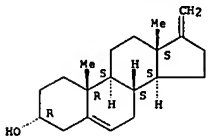
Absolute stereochemistry.

L9 ANSWER 16 OF 30 USPATFULL (Continued)



RN 161061-90-1 USPATFULL
CN Androst-5-en-3-ol, 17-methylene-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



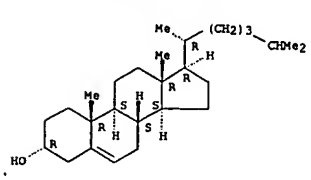
L9 ANSWER 17 OF 30 USPATFULL
ACCESSION NUMBER: 1999:27455 USPATFULL
TITLE: Epicholesterol dehydrogenase
INVENTOR(S): Saito, Chiaki, Machida, Japan
Senda, Hideyo, Machida, Japan
Yokoo, Yoshiharu, Ushiku, Japan
PATENT ASSIGNEE(S): Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5876993		19990302
APPLICATION INFO.:	US 1995-518320		19950823 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-193174, filed on 10 Feb 1994, now patented, Pat. No. US 5503988		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1992-150853	19920610

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lilling, Herbert J.
LEGAL REPRESENTATIVE: Antonelli, Terry, Stout & Kraus, LLP
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 745
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a process for producing a cholesterol-reduced substance obtained by converting cholesterol in a substance to epicholesterol, as well as to a novel cholesterol oxidase and a novel epicholesterol dehydrogenase which are used in the process, a process for production of these enzymes and a method for the production of epicholesterol with the use of the above mentioned epicholesterol dehydrogenase.
IT **474-77-1P**, Epicholesterol
(prepn. of, from cholesterol, cholesterol oxidase and epicholesterol dehydrogenase for)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 18 OF 30 USPATFULL
ACCESSION NUMBER: 1998:147425 USPATFULL
TITLE: Cationic amphiphiles containing ester or ether-linked lipophilic groups for intracellular delivery of therapeutic molecules
INVENTOR(S): Lee, Edward R., Quincy, MA, United States
Harris, David J., Lexington, MA, United States
Siegel, Craig S., Woburn, MA, United States
Lane, Mathieu B., Cambridge, MA, United States
Hubbard, Shirley C., Belmont, MA, United States
Cheng, Seng H., Wellesley, MA, United States
Eastman, Simon J., Marlboro, MA, United States
Marshall, John, Milford, MA, United States
Scheule, Ronald K., Hopkinton, MA, United States
PATENT ASSIGNEE(S): Genzyme Corporation, Framingham, MA, United States (U.S. corporation)

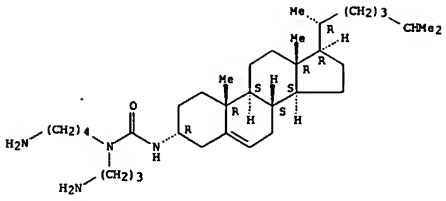
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5840710		19981124
APPLICATION INFO.:	US 1995-546087		19951020 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1995-540867, filed on 11 Oct 1995 which is a continuation-in-part of Ser. No. US 1994-352479, filed on 9 Dec 1994, now patented, Pat. No. US 5650096		

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Campbell, Bruce R.
LEGAL REPRESENTATIVE: Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 26 Drawing Figure(s); 22 Drawing Page(s)
LINE COUNT: 2972
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel cationic amphiphiles are provided that facilitate transport of biologically active (therapeutic) molecules into cells. The amphiphiles contain lipophilic groups derived from steroids, from mono or dialkylamines, or from alkyl or acyl groups; and cationic groups, protonatable at physiological pH, derived from amines, alkylamines or polyalkylamines. There are provided also therapeutic compositions prepared typically by contacting a dispersion of one or more cationic amphiphiles with the therapeutic molecules. Therapeutic molecules that can be delivered into cells according to the practice of the invention include DNA, RNA, and polypeptides. Representative uses of the therapeutic compositions of the invention include providing gene therapy, and delivery of antisense polynucleotides or biologically active polypeptides to cells. With respect to therapeutic compositions for gene therapy, the DNA is provided typically in the form of a plasmid for complexing with the cationic amphiphile.

Novel and highly effective plasmid constructs are also disclosed, including those that are particularly effective at providing gene therapy for clinical conditions complicated by inflammation. Additionally, targeting of organs for gene therapy by intravenous administration of therapeutic compositions is described.
IT **216103-78-5P 216103-79-6P 216103-81-0P 216103-82-1P**
(prepn. of cationic amphiphiles contg. ester or ether-linked lipophilic groups for intracellular delivery of therapeutic mols.)
RN 216103-78-5 USPATFULL
CN Urea, N-(4-aminobutyl)-N-(3-aminopropyl)-N'-(3.alpha.)-cholest-5-en-3-yl-

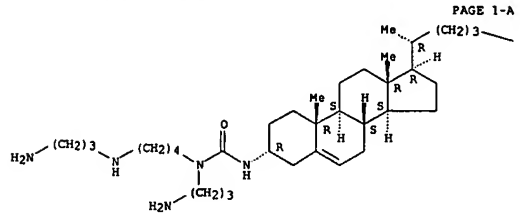
L9 ANSWER 18 OF 30 USPATFULL (Continued)
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 216103-79-6 USPATFULL
CN Urea, N-(3-aminopropyl)-N-[4-[(3-aminopropyl)amino]butyl]-N'-(3.alpha.)-cholest-5-en-3-yl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



PAGE 1-A

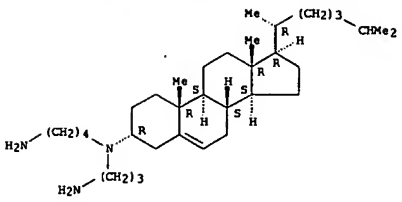
PAGE 1-B

CHMe2

RN 216103-81-0 USPATFULL
CN 1,4-Butanediamine, N-(3-aminopropyl)-N-(3.alpha.)-cholest-5-en-3-yl- (9CI) (CA INDEX NAME)

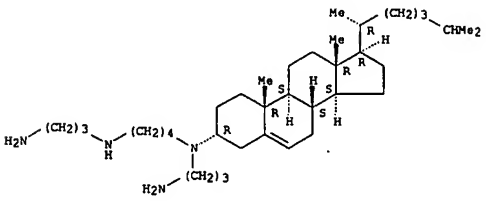
Absolute stereochemistry.

L9 ANSWER 18 OF 30 USPATFULL (Continued)



RN 216103-82-1 USPATFULL
CN 1,4-Butanediamine, N,N'-bis(3-aminopropyl)-N-(3.alpha.)-cholest-5-en-3-yl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 19 OF 30 USPATFULL

ACCESSION NUMBER:	1998:95432 USPATFULL
TITLE:	Steroid secreting human adrenocortical carcinoma cell lines
INVENTOR(S):	Gazdar, Adi F., Dallas, TX, United States La Rocca, Renato V., Louisville, KY, United States Stein, Cy A., New York, NY, United States Myers, Charles E., Rockville, MD, United States Oie, Herbert K., Rockville, MD, United States
PATENT ASSIGNEE(S):	The United States of America as represented by the Department of Health and Human Services, Washington, DC, United States (U.S. government)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5792657		19980811
APPLICATION INFO.:	US 1995-486679		19950607 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-308502, filed on 21 Sep 1994, now abandoned which is a continuation of Ser. No. US 1993-92923, filed on 16 Jul 1993, now abandoned which is a continuation of Ser. No. US 1990-558552, filed on 24 Jul 1990, now abandoned		

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Rollins, John W.
ASSISTANT EXAMINER:	Tate, Christopher R.
LEGAL REPRESENTATIVE:	Rucker, Susan S.
NUMBER OF CLAIMS:	1
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	12 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT:	737

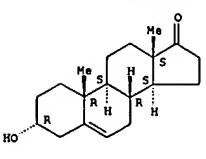
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Continuous cell lines have been established from adrenocortical corcinomas. The cell lines are maintained in fully defined serum-free, steroid-free mediums. The cells of the invention, as exemplified by NCI-H295 cells, express all of the major pathways of steroid-ogenesis, including formation of corticosteroids, mineralocorticoids and androgens.

IT 2283-82-1
(human adrenocortical carcinoma cell line NCI-H295 secretion of)

RN 2283-82-1 USPATFULL
CN Androst-5-en-17-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 20 OF 30 USPATFULL

ACCESSION NUMBER:	1998:85939 USPATFULL
TITLE:	Sialic acid derivatives
INVENTOR(S):	Chaki, Haruyuki, Yokohama, Japan Ando, Naoko, Yokohama, Japan Morinaka, Yasuhiro, Yokohama, Japan Saito, Ken-ichi, Yokohama, Japan Yugami, Tomoko, Yokohama, Japan Yoshida, Rie, Yokohama, Japan
PATENT ASSIGNEE(S):	Mitsubishi Chemical Corporation, Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5783564		19980721
APPLICATION INFO.:	US 1996-669219		19960624 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-362947, filed on 23 Dec 1994		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1993-328454	19931224

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Dees, JoseG.
ASSISTANT EXAMINER:	Badio, Barbara
LEGAL REPRESENTATIVE:	Wenderoth, Lind & Ponack
NUMBER OF CLAIMS:	5
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT:	3966

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Sialic acid derivatives represented by the general formula (I): wherein

R.sup.1 is a steroidal compound residue;

R.sup.2 is H or alkyl;

R.sup.3 is alkyl; ##STR1## wherein each of R.sup.6 and R.sup.7 is H, alkyl or the like and I is an integer of 0 to 6; or the like;

X is O or S;

R.sup.4 is H or acyl; and R.sup.5 is R.sup.14 O--(R.sup.14 is H or acyl) or R.sup.15 NH--(R.sup.15 is acyl or the like);

their salts, hydrates or solvates are provided.

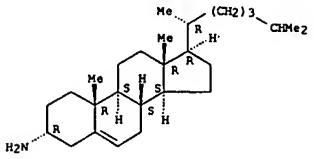
Sialic acid derivatives of the present invention are expected to be effective medicines for the prevention and therapy of senile dementia including Alzheimer's disease and the like, because they increase ChAT activity in cholinergic neurons.

IT 14735-32-1, 3.alpha.-Amino-5-cholestene
(prepn. of steroidal sialic acids as antidiabetics and for treatment of Alzheimers disease)

RN 14735-32-1 USPATFULL
CN Cholest-5-en-3-amine, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 20 OF 30 USPATFULL (Continued)



L9 ANSWER 21 OF 30 USPATFULL

ACCESSION NUMBER: 1998:9481 USPATFULL
TITLE: Sialic acid derivatives
INVENTOR(S): Chaki, Haruyuki, Yokohama, Japan
Ando, Naoko, Yokohama, Japan
Morinaka, Yasuhiro, Yokohama, Japan
Saito, Ken-Ichi, Yokohama, Japan
Yugami, Tomoko, Yokohama, Japan
Yoshida, Rie, Yokohama, Japan
PATENT ASSIGNEE(S): Mitsubishi Chemical Corporation, Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5712254		19980127
APPLICATION INFO.:	US 1994-362947		19941223 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1993-328454	19931224

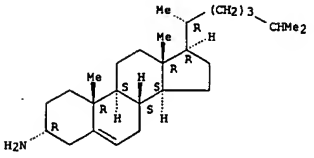
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Prior, Kimberly J.
LEGAL REPRESENTATIVE: Wenderoth, Lind & Ponack
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
LINE COUNT: 3633
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Sialic acid derivatives represented by the general formula (I): ##STR1## wherein R.sup.1 is a steroidal compound residue; R.sup.2 is H or alkyl; R.sup.3 is alkyl; ##STR2## wherein each of R.sup.6 and R.sup.7 is H, alkyl or the like and I is an integer of 0 to 6; or the like; X is O or S; R.sup.4 is H or acyl; and R.sup.5 is R.sup.14 O-- (R.sup.14 is H or acyl) or R.sup.15 NH--(R.sup.15 is acyl or the like); their salts, hydrates or solvates are provided. Sialic acid derivatives of the present invention are expected to be effective medicines for the prevention and therapy of senile dementia including Alzheimer's disease and the like, because they increase ChAT activity in cholinergic neurons.

IT 14735-32-1, 3.alpha.-Amino-5-cholestene
(prepn. of sialic acid derivs.)
RN 14735-32-1 USPATFULL
CN Cholest-5-en-3-amine, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 21 OF 30 USPATFULL (Continued)



L9 ANSWER 22 OF 30 USPATFULL

ACCESSION NUMBER: 96:31824 USPATFULL
TITLE: Lipid-selective antioxidants and their preparation and use
INVENTOR(S): Weithmann, Klaus-Ulrich, Hofheim am Taunus, Germany, Federal Republic of
Wess, Gunther, Erlensee, Germany, Federal Republic of
Seiffge, Dirk, Mainz, Germany, Federal Republic of
PATENT ASSIGNEE(S): Hoechst Aktiengesellschaft, Frankfurt am Main, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5508275		19960416
APPLICATION INFO.:	US 1994-212863		19940315 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1991-638321, filed on 7 Jan 1991, now patented, Pat. No. US 5318987		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1990-4000397	19900109

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ivy, C. Warren
ASSISTANT EXAMINER: Owens, Amelia
LEGAL REPRESENTATIVE: Finnegan, Henderson, Farabow, Garrett & Dunner
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
LINE COUNT: 1144
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Lipid-selective antioxidants of the formula I

(A).sub.a (L)(X).sub.a, (I),

in which

A=an antioxidative component,

L=a bridging member,

X=a lipophilic component

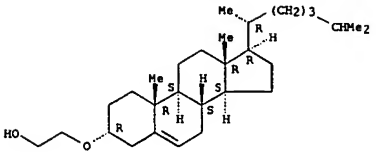
a and a'=independently of one another the numbers 1 or 2.

The compounds are used for the protection of lipid-containing substances against oxidation and in pharmaceuticals for the prophylaxis and treatment of diseases in which bioradicals are involved, in particular of coronary, circulatory and vascular diseases.

IT 136533-47-6
(reaction of, in prepn. of lipophilic antioxidant)
RN 136533-47-6 USPATFULL
CN Ethanol, 2-[[(3.alpha.)-cholest-5-en-3-yl]oxy]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 22 OF 30 USPATFULL (Continued)



L9 ANSWER 23 OF 30 USPATFULL

ACCESSION NUMBER: 96:27099 USPATFULL
TITLE: Process for producing a cholesterol-reduced substance
INVENTOR(S): Saito, Chiaki, Machida, Japan
Senda, Hideyo, Machida, Japan
Yokoo, Yoshiharu, Ushiku, Japan
PATENT ASSIGNEE(S): Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5503988		19960402	
	WO 9325702		19931223	
APPLICATION INFO.:	US 1994-193174		19940210	(8)
	WO 1993-JP771		19930608	
			19940210	PCT 371 date
			19940210	PCT 102(e) date

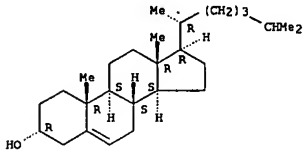
	NUMBER	DATE
PRIORITY INFORMATION:	JP 1992-150853	19920610

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lilling, Herbert J.
LEGAL REPRESENTATIVE: Antonelli, Terry, Stout & Kraus
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 750
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for producing a cholesterol-reduced substance obtained by converting cholesterol in a substance to epicholesterol, as well as to a novel cholesterol oxidase and a novel epicholesterol dehydrogenase which are used in the process, a process for production of these enzymes and a method for the production of epicholesterol with the use of the above mentioned epicholesterol dehydrogenase.

IT **474-77-1P**, Epicholesterol
(prepn. of, from cholesterol, cholesterol oxidase and epicholesterol dehydrogenase for)
RN 474-77-1 USPATFULL
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 23 OF 30 USPATFULL (Continued)

L9 ANSWER 24 OF 30 USPATFULL

ACCESSION NUMBER: 94:49168 USPATFULL
TITLE: Lipid-selective antioxidants and their preparation and use
INVENTOR(S): Weithmann, Klaus-Ulrich, Hofheim am Taunus, Germany, Federal Republic of
Wess, Gunther, Erlensee, Germany, Federal Republic of
Seiffge, Dirk, Mainz, Germany, Federal Republic of
PATENT ASSIGNEE(S): Hoechst Aktiengesellschaft, Frankfurt am Main, Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5318987		19940607	
APPLICATION INFO.:	US 1991-638321		19910107	(7)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1990-4000397	19900109

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ivy, C. Warren
ASSISTANT EXAMINER: Owens, A. A.
LEGAL REPRESENTATIVE: Finnegan, Henderson, Farabow, Garrett & Dunner
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
LINE COUNT: 1039
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Lipid-selective antioxidants of the formula I

(A).sub.a (L)(X).sub.a, (I),

in which

A=an antioxidative component,

L=a bridging member,

X=a lipophilic component

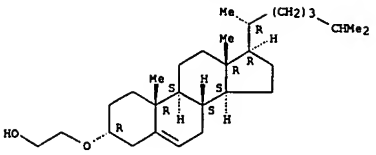
a and a'=independently of one another the numbers 1 or 2.

The compounds are used for the protection of lipid-containing substances against oxidation and in pharmaceuticals for the prophylaxis and treatment of diseases in which bioradicals are involved, in particular of coronary, circulatory and vascular diseases.

IT **136533-47-6**
(reaction of, in prepn. of lipophilic antioxidant)
RN 136533-47-6 USPATFULL
CN Ethanol, 2-[{(3.alpha.)-cholest-5-en-3-yl}oxy]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 24 OF 30 USPATFULL (Continued)



L9 ANSWER 25 OF 30 USPATFULL

ACCESSION NUMBER:	89:47675 USPATFULL
TITLE:	Liposomes with enhanced retention on mucosal tissue
INVENTOR(S):	Guo, Luke S. S., Lafayette, CA, United States Redemann, Carl T., Walnut Creek, CA, United States Radhakrishnan, Ramachandran, Palo Alto, CA, United States Yau-Young, Annie, Los Altos, CA, United States
PATENT ASSIGNEE(S):	Liposome Technology, Inc., Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4839175		19890613
APPLICATION INFO.:	US 1986-890815		19860728 (6)
DISCLAIMER DATE:	20060214		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Lovering, Richard D.		
LEGAL REPRESENTATIVE:	Dehlinger, Peter J.		
NUMBER OF CLAIMS:	10		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	7 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1721		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

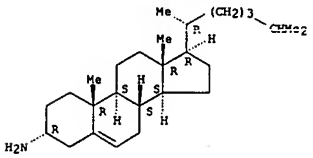
AB A liposome composition designed for enhanced binding to mucosal tissue, The liposomes contain about 10-40 mole percent of an amine-derivatized lipid component in which a charged amine group is spaced from a lipid polar head region by a carbon-containing spacer arm at least 3 atoms in length. The liposomes preferably have a close packed lipid structure produced by inclusion of between 20-50 mole percent of cholesterol or an amine-derivatized cholesterol, and/or phospholipids with predominantly saturated acyl chain moieties. For ophthalmic use, the liposomes may be suspended in an aqueous medium containing a high-viscosity polymer, to enhance further the retention of liposomes on a corneal surface.

IT 14735-32-1P
(prepn. of, for use in liposomes with enhanced mucosal retention)

RN 14735-32-1 USPATFULL

CN Cholest-5-en-3-amine, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 26 OF 30 USPATFULL

ACCESSION NUMBER:	89:10763 USPATFULL
TITLE:	Ophthalmic liposomes
INVENTOR(S):	Guo, Luke S. S., Lafayette, CA, United States Redmann, Carl T., Walnut Creek, CA, United States Radhakrishnan, Ramachandran, Palo Alto, CA, United States
PATENT ASSIGNEE(S):	Liposome Technology, Inc., Menlo Park, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4804539		19890214
APPLICATION INFO.:	US 1986-890817		19860728 (6)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Lovering, Richard D.		
LEGAL REPRESENTATIVE:	Dehlinger, Peter J.		
NUMBER OF CLAIMS:	13		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	7 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1568		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

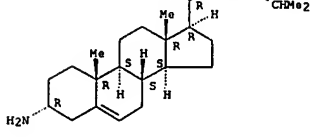
AB A liposome composition with enhanced retention on ocular surfaces, for use in ophthalmic drug delivery and dry eye treatment. The liposomes contain about 10-40 mole percent of an amine-derivatized lipid component in which a charged amine group is spaced from a lipid polar head region by a carbon-containing spacer arm at least 3 atoms in length. The liposomes preferably have a close packed lipid structure produced by inclusion of between 20-50 mole percent of cholesterol or an amine-derivatized cholesterol, and/or phospholipids with predominantly saturated acyl chain moieties. The liposomes may be suspended in an aqueous medium containing a high-viscosity polymer, formulated in paste form, or embedded in a polymer matrix, to enhance further the retention of liposomes on a corneal surface.

IT 14735-32-1P
(prepn. of, for use in liposomes with enhanced mucosal retention)

RN 14735-32-1 USPATFULL

CN Cholest-5-en-3-amine, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 27 OF 30 USPATFULL

ACCESSION NUMBER:	84:22976 USPATFULL
TITLE:	Derivatives of 3-amino-pregn-5-ene
INVENTOR(S):	Torelli, Vesperto, Maisons-Alfort, France Benzoni, Josette, Livry Gargan, France Deraedt, Roger, Pavillons sous Bois, France
PATENT ASSIGNEE(S):	Roussel Uclaf, Paris, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4444767		19840424
APPLICATION INFO.:	US 1982-436524		19821025 (6)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1981-20135	19811027
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Roberts, Elbert L.	
LEGAL REPRESENTATIVE:	Bierman, Bierman, Peroff & Muserlian	
NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1,15	
LINE COUNT:	634	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A compound selected from the group consisting of: 3-amino-.DELTA..sup.5 -pregnenes of the formula I: ##STR1## wherein X is selected from the group of ##STR2## the wavy lines indicate that the group may be in the .alpha.-or .beta.-position, R.sub.1 is selected from the group consisting of hydrogen and hydroxyalkyl or 2 to 5 carbon atoms, R.sub.2 is selected from the group consisting of hydrogen, hydroxyalkyl of 2 to 5 carbon atoms, acyl of an aliphatic carboxylic acid of 3 to 8 carbon atoms, alkoxycarbonyl of 2 to 8 carbon atoms, acyl of an .alpha.-amino-carboxylic acid or from a peptide of 2 to 3 amino acids of which amines may be either unsubstituted or mono-or disubstituted with alkyl of 1 to 5 carbon atoms with the proviso that R.sub.1 and R.sub.2 are not both hydrogen and that if the 3-amino group is in the .beta.-position, (i) when X is ##STR3## R.sub.1 and R.sub.2 are not both hydroxyethyl or (ii) when X is ##STR4## and R.sub.1 is hydrogen, R.sub.2 is not ethoxycarbonyl, the compound of the formula I wherein X is ##STR5## R.sub.1 is hydrogen and R.sub.2 is methyl, the 3-amino group is in the .alpha.-position

and their non-toxic, pharmaceutically acceptable acid addition salts which are useful as stimulants of the mammalian immune system.

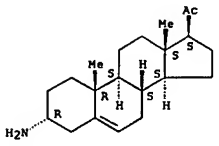
IT 28840-94-0
(ethoxycarbonylation of)

RN 28840-94-0 USPATFULL

CN Pregn-5-en-20-one, 3-amino-, (3.alpha.)- (9CI) (CA INDEX NAME)

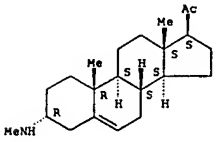
Absolute stereochemistry.

L9 ANSWER 27 OF 30 USPATFULL (Continued)



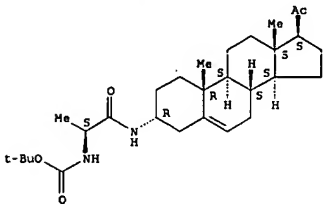
IT 41567-48-0P
(prepn. and condensation with glycine derivs.)
RN 41567-48-0 USPATFULL
CN Pregn-5-en-20-one, 3-(methylamino)-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 86679-87-0P
(prepn. and deblocking of)
RN 86679-87-0 USPATFULL
CN Carbamic acid, [1-methyl-2-oxo-2-[[(3.alpha.)-20-oxopregn-5-en-3-yl]amino]ethyl]-, 1,1-dimethylethyl ester, (S)- (9CI) (CA INDEX NAME)

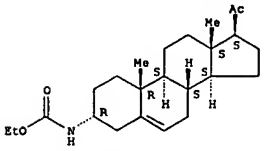
Absolute stereochemistry.



L9 ANSWER 27 OF 30 USPATFULL (Continued)

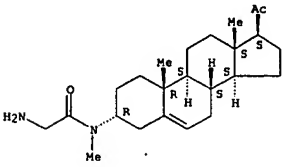
IT 86679-81-4P
(prepn. and ketalization of)
RN 86679-81-4 USPATFULL
CN Carbamic acid, [(3.alpha.)-20-oxopregn-5-en-3-yl]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 86679-85-8P
(prepn. of)
RN 86679-85-8 USPATFULL
CN Acetamide, 2-amino-N-methyl-N-[(3.alpha.)-20-oxopregn-5-en-3-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 28 OF 30 USPATFULL

ACCESSION NUMBER: 81:10709 USPATFULL
TITLE: Steroid conversion method and products produced thereby
INVENTOR(S): Breslow, Ronald C. D., Englewood, NJ, United States
Corcoran, Richard J., Maywood, NJ, United States
Snider, Barry B., Princeton, NJ, United States
PATENT ASSIGNEE(S): Research Corporation, New York, NY, United States (U.S. corporation)

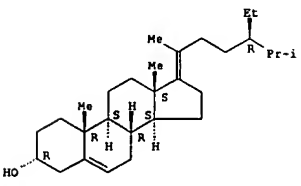
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4252719		19810224
APPLICATION INFO.:	US 1978-934314		19780817 (5)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1977-786060, filed on 8 Apr 1977, now abandoned which is a continuation of Ser. No. US 1975-621163, filed on 9 Oct 1975, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Roberts, Elbert L.
LEGAL REPRESENTATIVE: Cooper, Dunham, Clark, Griffin & Moran
NUMBER OF CLAIMS: 24
EXEMPLARY CLAIM: 1,21
NUMBER OF DRAWINGS: 31 Drawing Page(s)
LINE COUNT: 964
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Method for the removal of selected tertiary hydrogen atoms from 5 .alpha.-steroids of the cholestane, androstane and pregnane series by chlorination of 5 .alpha.-steroids esterified with selected iodoaryl substituted esterifying agents which direct a chlorine atom from the chlorinating agent into reactive proximity to the hydrogen atom to be removed.

IT 77610-74-3P 77610-90-3P
(prepn. of)
RN 77610-74-3 USPATFULL
CN Stigmasta-5,17(20)-dien-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

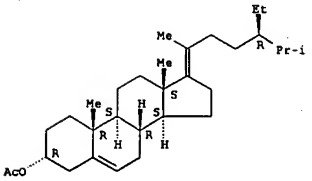
Absolute stereochemistry.
Double bond geometry unknown.



RN 77610-90-3 USPATFULL
CN Stigmasta-5,17(20)-dien-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

L9 ANSWER 28 OF 30 USPATFULL (Continued)



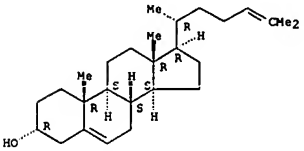
L9 ANSWER 29 OF 30 USPATFULL
ACCESSION NUMBER: 80:48367 USPATFULL
TITLE: Steroid derivatives and process for preparing the same
INVENTOR(S): Ochi, Kiyoshige, Kawagoe, Japan
Matsunaga, Isao, Tokyo, Japan
Shindo, Minoru, Tokyo, Japan
Kaneko, Chikara, Kanazawa, Japan
PATENT ASSIGNEE(S): Chugai Seiyaku Kabushiki Kaisha, Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4225524		19800930
APPLICATION INFO.:	US 1978-915988		19780614 (5)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1977-74526	19770624
	JP 1977-100591	19770824

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Roberts, Elbert L.
LEGAL REPRESENTATIVE: Browdy and Neimark
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1
LINE COUNT: 387
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Steroid derivatives represented by the formula ##STR1## wherein R.sup.1 and R.sup.2 are as defined hereunder which is useful for easily producing a wide variety of active vitamin D, and a process for preparing the same are disclosed.
IT 67392-80-7P
(prepn. and acylation of)
RN 67392-80-7 USPATFULL
CN Cholesta-5,24-dien-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

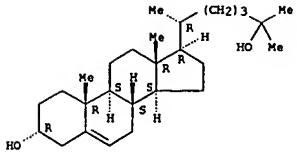
Absolute stereochemistry.



IT 67392-81-8P
(prepn. and dehydrogenation of)
RN 67392-81-8 USPATFULL
CN Cholest-5-ene-3,25-diol, (3.alpha.)- (9CI) (CA INDEX NAME)

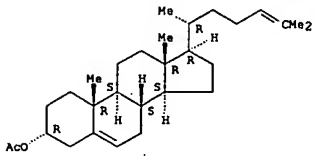
Absolute stereochemistry.

L9 ANSWER 29 OF 30 USPATFULL (Continued)



IT 67383-62-4P
(prepn. and sapon. of)
RN 67383-62-4 USPATFULL
CN Cholesta-5,24-dien-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



(prepn. of)

L9 ANSWER 30 OF 30 USPATFULL
ACCESSION NUMBER: 75:34548 USPATFULL
TITLE: Intrauterine contraceptive device for releasing steroid having double bond functionality
INVENTOR(S): Zaffaroni, Alejandro, Atherton, CA, United States
PATENT ASSIGNEE(S): ALZA Corporation, Palo Alto, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3892842		19750701
APPLICATION INFO.:	US 1973-406951		19731016 (5)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1971-176926, filed on 1 Sep 1971, now abandoned which is a continuation-in-part of Ser. No. US 1969-884305, filed on 11 Nov 1969, now abandoned which is a continuation-in-part of Ser. No. US 1969-864175, filed on 6 Oct 1969, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Rose, Shep K.
LEGAL REPRESENTATIVE: Sabatine, Paul L., Mandell, Edward L.
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 970
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An intrauterine delivery device for the administration of anti-fertility steroid to the uterine cavity comprising a body of non-toxic, biologically inert, polymeric release rate controlling material containing therein an anti-fertility steroid comprising a locally active steroid of the structural formula: ##SPC1##

Wherein A is ##SPC2##

C-oh, c--oh, c-or, or C--OR; B is ##SPC3##

C-oh, c-or, c--oh, or C--OR; R is the residue of a pharmaceutically acceptable acid or a lower alkyl group; said anti-fertility agent having a sole double bond at the .DELTA..sup.1, .DELTA..sup.4 or .DELTA..sup.5 position or double bonds at the .DELTA..sup.1 and .DELTA..sup.4 positions when A and B are both ##SPC4##

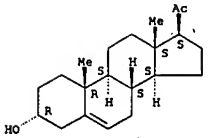
Respectively; and, provided that B is not ##SPC5##

When A is ##SPC6##

And the double bond is at the .DELTA..sup.4 position; and wherein the device, while in the uterus, continuously meters the flow of a contraceptively effective amount of steroid through the material at a controlled and predetermined rate over a period of time.
IT 19037-28-6
(contraceptive, intrauterine device for delivery of)
RN 19037-28-6 USPATFULL
CN Pregn-5-en-20-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 30 OF 30 USPATFULL (Continued)



=> d ibib ab hitstr

L14 ANSWER 1 OF 1 USPATFULL

ACCESSION NUMBER: 2003:24344 USPATFULL

TITLE: Method for synthesizing 5beta, 6beta-epoxides of steroids by a highly beta-selective epoxidation of delta5-unsaturated steroids catalyzed by ketones

INVENTOR(S): Yang, Dan, Hong Kong, HONG KONG
Jiao, Guan-Sheng, College Station, TX, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003018188	A1	20030123
APPLICATION INFO.:	US 2002-91627	A1	20020306 (10)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2001-788201, filed on 16 Feb 2001, ABANDONED

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-183396P	20000218 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Sandra B. Weiss, Jones, Day, Reavis & Pogue, 77 West Wacker, Chicago, IL, 60601
NUMBER OF CLAIMS: 63
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 35 Drawing Page(s)
LINE COUNT: 1928
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A general, efficient, and environmentally friendly method is provided for producing mostly .beta.-epoxides of .DELTA..sup.5-unsaturated steroids using certain ketones as the catalyst along with an oxidizing agent, or by using certain dioxiranes. In another aspect of the invention, a method is provided for producing mostly 5.beta.,6.beta.-epoxides of steroids from .DELTA..sup.5-unsaturated steroids having a substituent at the 3.alpha.-position by an epoxidation reaction using a ketone along with an oxidizing agent under conditions effective to generate epoxides, or using a dioxirane under conditions effective to generate epoxides. A whole range of .DELTA..sup.5-unsaturated steroids, bearing different functional groups such as hydroxy, carbonyl, acetyl or ketal group as well as different side chains, were conveniently converted to the corresponding synthetically and biologically interesting 5.beta.,6.beta.-epoxides with excellent .beta.-selectivities and high yields.

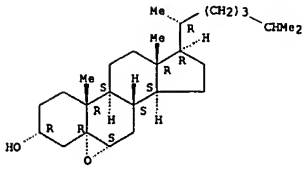
IT **2953-38-0P 14456-17-8P 24116-45-8P**
(prepn. of 5.beta.,6.beta.-epoxides of steroids by .beta.-selective epoxidn. of .DELTA.5-unsatd. steroids catalyzed by ketones)

RN 2953-38-0 USPATFULL

CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

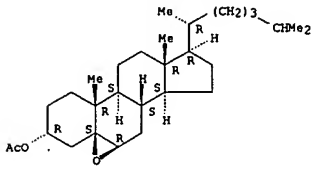
L14 ANSWER 1 OF 1 USPATFULL (Continued)



RN 14456-17-8 USPATFULL

CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

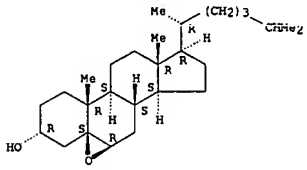
Absolute stereochemistry.



RN 24116-45-8 USPATFULL

CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L14 ANSWER 1 OF 1 USPATFULL (Continued)

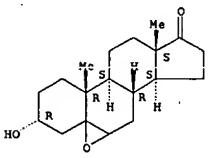
=> d ibib ab hitstr 1-45

L16 ANSWER 1 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:389246 CAPLUS
DOCUMENT NUMBER: 133:4592
TITLE: Method of epoxidation reaction of olefins
INVENTOR(S): Tian, Weisheng; Yan, Zhaohua
PATENT ASSIGNEE(S): Shanghai Inst. of Organic Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1203915	A	19990106	CN 1998-110882	19980602

PRIORITY APPLN. INFO.: CN 1998-110882 19980602
OTHER SOURCE(S): CASREACT 133:4592
AB Olefins are epoxidized in H2O2-RfSO2F-base oxidn. system and in org. solvent at 0-30.degree.. The mole ratio of olefin-H2O2-RfSO2F-base is 1:2- 12:1-6:2-12, preferably 1:8:4:8. RfSO2F is selected from 2-tetrafluoroethoxytetrafluoroethanesulfonyl fluoride, 2-(2-iodotetrafluoroethoxy)tetrafluoroethanesulfonyl fluoride, 2-(2-chlorotetrafluoroethoxy)tetrafluoroethanesulfonyl fluoride, perfluorooctanesulfonyl fluoride, perfluorobutanesulfonyl fluoride, methoxycarbonyldifluoromethanesulfonyl fluoride, and 2-[2-tetrafluoroethoxy]tetrafluoroethanesulfonyl fluoride; the base from DBU, DBN, NaOEt, NEt3, NaNH2, pyridine, NaOH, KOH, LiOH, Na2CO3, K2CO3, NaOAc, NaHCO3, and KHCO3, etc; and the solvent from THF, EtOH, MeCN, MeOH, and acetone, preferably MeOH.
IT **270251-88-2P 270251-90-6P 270251-95-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(epoxidn. reaction of olefins)
RN 270251-88-2 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

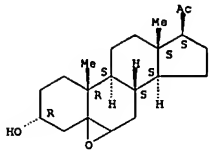
Absolute stereochemistry.



RN 270251-90-6 CAPLUS
CN Pregnan-20-one, 5,6-epoxy-3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

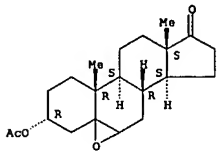
Absolute stereochemistry.

L16 ANSWER 1 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



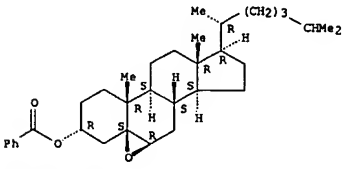
RN 270251-95-1 CAPLUS
CN Androstan-17-one, 3-(acetyloxy)-5,6-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 2 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:600698 CAPLUS
DOCUMENT NUMBER: 129:316428
TITLE: A Highly .beta.-Stereoselective Catalytic Epoxidation of .DELTA.5-Unsaturated Steroids with a Novel Ruthenium(II) Complex under Aerobic Conditions
AUTHOR(S): Kesavan, Venkitasamy; Chandrasekaran, Srinivasan
CORPORATE SOURCE: Department of Organic Chemistry, Indian Institute of Science, Bangalore, 560 012, India
SOURCE: Journal of Organic Chemistry (1998), 63(20), 6999-7001
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:316428
AB Catalytic .beta.-stereoselective epoxidn. of .DELTA.5-unsatd. steroid derivs. has been effected by a novel ruthenium(II) bioxazoline complex under aerobic conditions. The reactions are regio- and stereoselective. The reaction conditions provide the corresponding 5.beta.,6.beta.-epoxides, e.g. I, with high degree of stereoselectivity (88-96%) in very good yields, while oxidn. of steroid derivs. with peracids leads to 5.alpha.,6.alpha.-epoxides as the major products. The overall conformation of the steroid nucleus is nearly planar in the cholesteryl ester, while it is bent at the junction between the rings A and B in the 5.beta.,6.beta.-epoxide. This change from pseudo-trans- to cis-stereochem. of the A-B ring junction provides more room for the catalyst to approach from the .beta.-face of the steroidal skeleton.
IT **107419-88-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(.beta.-stereoselective catalytic epoxidn. of .DELTA.5-unsatd. steroids with a novel ruthenium(II) complex under aerobic conditions)
RN 107419-88-5 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, benzoate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

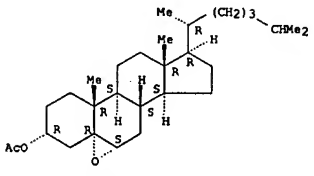
Absolute stereochemistry.



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

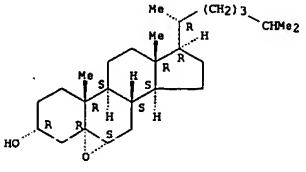
L16 ANSWER 3 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:681247 CAPLUS
DOCUMENT NUMBER: 127:346239
TITLE: Oxygen transfer reactions from an oxaziridinium tetrafluoroborate salt to olefins
AUTHOR(S): Lusinchi, Xavier; Hanquet, Gilles
CORPORATE SOURCE: Institut de Chimie des Substances Naturelles, CNRS, Gif sur Yvette, F 91180, Fr.
SOURCE: Tetrahedron (1997), 53(40), 13727-13738
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 127:346239
AB Oxaziridinium I efficiently epoxidizes olefins. It reacts as an electrophilic reagent and does not transfer its oxygen to deactivated double bonds or carbonyl functions. Epoxidn. of cyclic allylic acetates shows a remarkable diastereoselectivity leading to the syn isomer. We propose that the epoxidn. reaction proceeds through a one-step process.
IT **2953-35-7P 2953-38-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(epoxidn. of olefins by oxaziridinium tetrafluoroborate)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 3 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

L16 ANSWER 4 OF 45 CAPLUS COPYRIGHT 2003 ACS

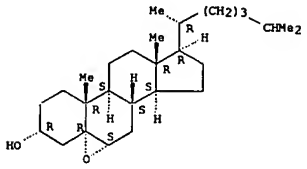
ACCESSION NUMBER: 1996:643301 CAPLUS
DOCUMENT NUMBER: 125:271608
TITLE: The effects of cholesterol oxidation products on human platelet aggregation
AUTHOR(S): Selley, Michael L.; McGuiness, Julie A.; Ardlie, Neville G.
CORPORATE SOURCE: John Curtin Sch. Medical Research, Australian National Univ., 2605, Australia
SOURCE: Thrombosis Research (1996), 83(6), 449-461
CODEN: THBRAA; ISSN: 0049-3848
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The cholesterol oxidn. products (oxysterols) cholest-3,5-dien-7-one, cholestan-5.alpha.,6.alpha.-epoxy-.beta.-ol (cholesterol 5.alpha.-epoxide), cholestan-5.beta.,6.beta.-epoxy-3.beta.-ol (cholesterol 5.beta.-epoxide), cholest-5-ene-3.beta.-ol-7-one (7-ketocholesterol), cholest-5-ene-3.beta.,7.alpha.-diol (7.alpha.-hydroxycholesterol), cholestan-3.beta.,5.alpha.,6.beta.-triol (cholestane triol), and cholest-5-ene-3.beta.,26-diol (27-hydroxycholesterol) potentiated platelet aggregation and increased thromboxane A2 formation in platelets challenged with thrombin, ADP or collagen. The effects were obsd. at oxysterol concns. in the range 5-100 .mu.M. Cholesterol 5.beta.-epoxide and 7-ketocholesterol increased the mobilization of 3H-arachidonic acid from prelabeled platelet phospholipids in response to thrombin and collagen.

IT **2953-38-0**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(oxysterols effect on human platelet aggregation)

RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 5 OF 45 CAPLUS COPYRIGHT 2003 ACS

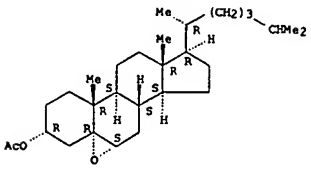
ACCESSION NUMBER: 1994:457769 CAPLUS
DOCUMENT NUMBER: 121:57769
TITLE: Photochemically induced mercuric oxide - iodine oxidation of some unsaturated steroid compounds
AUTHOR(S): Dabovic, Milan; Bjelakovic, Mira; Andrejevic, Vladimir; Lorenc, Ljubinka; Mihailovic, Mihailo L.
CORPORATE SOURCE: Fac. Chem., Univ. Belgrade, Belgrade, YU-11001, Yugoslavia
SOURCE: Tetrahedron (1994), 50(6), 1833-46
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:57769

AB Photochem. induced HgO/I2 oxidn. of cholest-5-en-3.alpha.-ol and cholest-5-en-3.beta.-ol afforded products I, II, 6.alpha.-III and 6.beta.-III, which arose from the corresponding alkoxy radicals, and epoxides 3.alpha.,5.alpha.,6.alpha.-IV, 3.beta.,5.alpha.,6.alpha.-IV, and 3.beta.,5.beta.,6.beta.-IV, which arose from attack of the I2O intermediate at the olefinic double bond. With cholest-5-ene-1.alpha.,3.beta.-diol 3-acetate and cholest-7-ene-3.beta.,5.alpha.-diol 3-acetate, the HgO/I2 oxidn. led to unresolvable complex mixts. With the same reagent, cholest-5-en-3.alpha.-ol acetate underwent exclusively attack by I2O to give epoxides, and iodohydrin, and rearranged products.

IT **2953-35-7P 2953-38-0P 14456-17-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by photochem. oxidn. of cholestenols with mercuric oxide and iodine)

RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

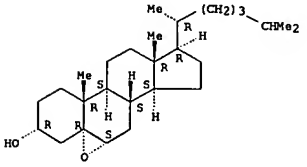
Absolute stereochemistry.



RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

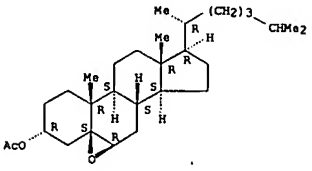
Absolute stereochemistry.

L16 ANSWER 5 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



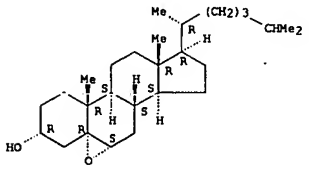
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



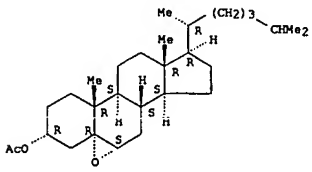
L16 ANSWER 6 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:465431 CAPLUS
DOCUMENT NUMBER: 119:65431
TITLE: DNA-breakage inhibition by bile acids and glycine
AUTHOR(S): Osada, Kyoichi; Morisaki, Takafumi; Yamada, Koji; Sugano, Michihiro
CORPORATE SOURCE: Fac. Agric., Kyushu Univ., Fukuoka, 812, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (1993), 57(5), 724-7
CODEN: BBBIEJ; ISSN: 0916-8451
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The DNA-breaking and DNA breakage-inhibiting activities of 23 steroids (bile acids, steroid hormones, neutral sterols, and oxidized cholesterols) were measured in vitro. No compds. examd. broke DNA, but some bile acids such as taurocholic, lithocholic, ursodeoxycholic, chenodeoxycholic, and hyocholic acids inhibited DNA breakage by ascorbic acid. Taurocholic acid had the highest inhibiting activity at concns. above 10 mmol, but its constituents, taurine and cholic acid, had no activity. On the contrary, glycine was an inhibitor, although glycine-conjugated bile acids were not effective. Anal. of the structure-activity relationship of bile acids suggested that the H group but not the OH group in the 12-position of the mol. is required for the DNA breakage-inhibiting activity of non-conjugated bile acid. Among the conjugated bile acids having the OH group in the 7,12-positions, taurocholic acid had the DNA breakage-inhibiting activity, but not glycocholic acid, although glycine, but not taurine, was effective.
IT **2953-38-0**
RL: BIOL (Biological study)
(DNA breakage response to, other bile acids in relation to)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 7 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:428423 CAPLUS
DOCUMENT NUMBER: 119:28423
TITLE: Photochemically induced mercuric oxide-iodine oxidation of 3.alpha.- and 3.beta.-acetoxycholest-5-enes
AUTHOR(S): Mihailovic, Mihailo J. J.; Lorenc, Ljubinka; Bjelakovic, Mira; Dabovic, Milan; Andrejevic, Vladimir
CORPORATE SOURCE: Fac. Chem., Univ. Belgrade, Belgrade, YU-11001, Yugoslavia
SOURCE: Journal of the Serbian Chemical Society (1992), 57(12), 985-9
CODEN: JSCSEN; ISSN: 0352-5139
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 119:28423
AB When cholest-5-en-3.alpha.-ol acetate was subjected to photochem. induced HgO/I2 oxidn., it afforded 6.beta.-iodo-5.alpha.-hydroxycholestan-3-one acetate (16.1%), 5.alpha.,6.alpha.-epoxy- and 5.beta.,6.beta.-epoxycholestan-4.alpha.-ol acetate (total yield 8.6%, ratio .apprxeq. 9:1), 6.beta.-iodocholestane-3.alpha.,5.alpha.-diol 3-acetate (6.2%), and cholestane-3.alpha.,5.alpha.,6.alpha.-triol 6-acetate (20.1%), while the epimeric cholest-5-en-3.beta.-ol acetate, under similar exptl. conditions, underwent mainly non-stereospecific epoxidn. of the olefinic double bond, to produce a .apprxeq.1:1 mixt. of 5.alpha.,6.alpha.-epoxy- and 5.beta.,6.beta.-epoxycholestan-3.beta.-ol acetate (in over 67% yield).
IT **2953-35-7P 14456-17-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

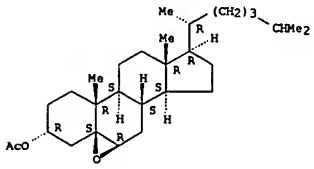
Absolute stereochemistry.



RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

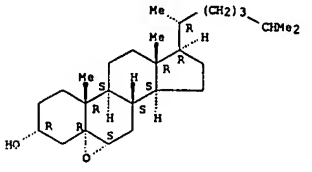
Absolute stereochemistry.

L16 ANSWER 7 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 8 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:645345 CAPLUS
DOCUMENT NUMBER: 117:245345
TITLE: Probucol reduces plasma and aortic wall oxysterol levels in cholesterol fed rabbits independently of its plasma cholesterol lowering effect
AUTHOR(S): Hodis, Howard N.; Chauhan, Amitabh; Hashimoto, Sam; Crawford, Donald W.; Sevanian, Alex
CORPORATE SOURCE: Sch. Med., Univ. South. California, Los Angeles, CA, 90033, USA
SOURCE: Atherosclerosis (Shannon, Ireland) (1992), 96(2-3), 125-34
CODEN: ATHSBL; ISSN: 0021-9150
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To understand further the antiatherogenic mechanism of probucol, the antioxidant effect of this agent was studied on specific cholesterol oxidn. products in plasma and aortic wall in equally hypercholesterolemic New Zealand white rabbits. In order to maintain equal plasma total cholesterol levels, five control rabbits (C group) received a 1% followed by a 0.5% cholesterol enriched diet, while the probucol treated rabbits (C+P group) received a graded increase in the cholesterol supplemented diet from 1% to 3%; probucol supplementation was const. at 1%. After 9 wk of feeding, the plasma oxysterols, cholest-5-ene-3.beta.,7.alpha.-diol, cholest-5-ene-3.beta.,7.beta.-diol, 5,6.beta.-epoxy-5.alpha.-cholestan-3.beta.-ol, 5,6.alpha.-epoxy-5.alpha.-cholestan-3.alpha.-ol and 5.alpha.-cholestane-3.beta.,5,6.beta.-triol significantly increased over baseline levels in both exptl. groups. However, the increase in all these products in plasma was 20-60% less in the C+P group than the C group ($P < 0.05$). Furthermore, the C+P aortic wall cholesterol oxide concns. were 50-90% less than the C group ($P < 0.05$). The oxysterol pattern of the aortic wall was similar to plasma. Addnl., the aortic wall cholesterol content in the C+P group was 50% less than the C group ($P < 0.05$). The plasma cholesterol levels were not different at any time point during the study and the cholesterol oxide content in the diets was the same. These results are consistent with the contention that the antioxidant properties of probucol serve as the basis for its antiatherogenic effects in vivo.
IT **2953-38-0**
RL: BIOL (Biological study)
(probucol decrease of, in aortic wall and plasma, independent of anticholesterolemic effects)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

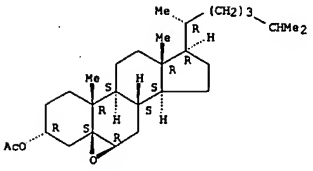


L16 ANSWER 8 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

L16 ANSWER 9 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:612781 CAPLUS
DOCUMENT NUMBER: 117:212781
TITLE: Catalytic .beta.-stereospecific epoxidation of unsaturated steroids by trans-dioxoruthenium(VI)tetramesitylporphyrin. Stereochemical grounds for the .beta.-diastereofacial selection
AUTHOR(S): Tavares, Manuella; Ramasseul, Rene; Marchon, Jean Claude; Bachet, Bernard; Brassy, Claude; Mornon, Jean Paul
CORPORATE SOURCE: Lab. Chim. Coord., Cent. Etud. Nucl. Grenoble, Grenoble, 38041, Fr.
SOURCE: Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1992), (8), 1321-9
CODEN: JCPKBH; ISSN: 0300-9580
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 117:212781
AB The catalytic epoxidn. by dioxygen with trans-dioxoruthenium(VI)tetramesitylporphyrin (I) of the acetic esters of cholesterol, 3-epicholesterol and isocholesterol, as well as of the 7.alpha.-epimer of the latter, is .beta.-stereospecific. Substitution by a Me group on C-6 of pregnenolone acetate results in reduced reactivity towards catalytic epoxidn. and lower .beta.-stereoselectivity. 19-Norsterol esters bearing a double bond at C-8-C-14 or C-14-C-15, e.g., II and III are inert towards epoxidn. catalyzed by I. The variable reactivity of these sterol ester substrates is explained by a transition state in which the steroid nucleus approaches the ruthenium-oxo bond approx. perpendicular to the porphyrin ring. The .beta.-selectivity of .DELTA.5-sterol ester epoxidn. is accounted for in terms of this transition state geometry which provides a good fit between the porphyrin catalyst and the steroid substrate when the .beta.-side faces the oxo ligand. On the other hand, reaction on the .alpha.-side involves unfavorable steric interactions between axial hydrogen atoms on C-3 and C-7 of the substrate and the porphyrin ring and a mesityl substituent of the catalyst, resp. The crystal and mol. structures of cholesteryl Et carbonate and of its 5,6.beta.-epoxide have been detd. by single-crystal x-ray diffraction. The overall conformation of the steroid nucleus is nearly planar in the cholesteryl ester, while it is bent at the junction between rings A and B in the 5,6.beta.-epoxide. This change from pseudo-trans-to cis-stereochem. of the A-B ring junction upon epoxidn. is proposed to amplify the .beta.-diastereofacial selection. Variable temp. 1H NMR spectra indicate that in CD2C12 soln. the 5,6.beta.-epoxide (not the 5,6.alpha.-epoxide) of the cholesteryl acetate coordinates the ruthenium atom of I with a nearly perpendicular geometry. These results corroborate the orthogonal substrate approach and the steric origin of the .beta.-stereospecificity in I-catalyzed steroid epoxidns.
IT **14456-17-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereospecific prepn. of)
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

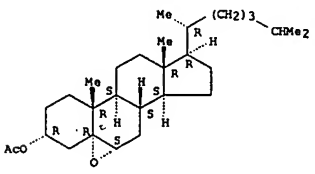
Absolute stereochemistry.

L16 ANSWER 9 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 10 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:174525 CAPLUS
DOCUMENT NUMBER: 116:174525
TITLE: Efficient epoxidation of cholesterol and cholesteryl acetate by dioxygen in the presence of isobutyraldehyde. Metalloporphyrin-enhanced .beta.-diastereofacial selectivity of epoxidation
AUTHOR(S): Ramasseul, Rene; Tavares, Manuella; Marchon, Jean Claude
CORPORATE SOURCE: Dep. Rech. Fondam. Matiere Condens., Cent. Etud. Nucl., Grenoble, 38041, Fr.
SOURCE: Journal of Chemical Research, Synopses (1992), (3), 104-5
CODEN: JRPSDC; ISSN: 0308-2342
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:174525
AB Cholesterol and cholesteryl acetate are efficiently epoxidized by air and isobutyraldehyde; the .beta.-stereoselectivity of cholesteryl acetate epoxidn. is enhanced to more than 80% in the presence of (5,10,15,20-tetraphenylporphyrinato)nickel(II).
IT **2953-35-7P 2953-38-0P 14456-17-8P 24116-45-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

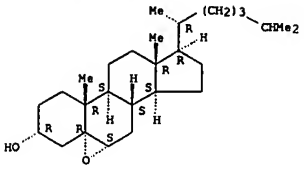
Absolute stereochemistry.



RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

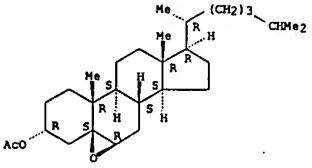
Absolute stereochemistry.

L16 ANSWER 10 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



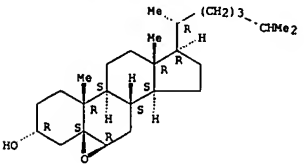
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



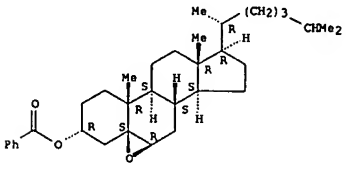
L16 ANSWER 11 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:129356 CAPLUS
DOCUMENT NUMBER: 116:129356
TITLE: A novel and highly .beta.-selective epoxidation of .DELTA.5-unsaturated steroids with permanganate ion
AUTHOR(S): Syamala, M. S.; Das, Jagattaran; Baskaran, Sundarababu; Chandrasekaran, Srinivasan
CORPORATE SOURCE: Dep. Org. Chem., Indian Inst. Sci., Bangalore, 560 012, India
SOURCE: Journal of Organic Chemistry (1992), 57(6), 1928-30
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:129356

AB In an oxidn. of .DELTA.5-unsatd. steroids with KMnO4-CuSO4.5H2O in dichloromethane in the presence of a catalytic amt. of water and tert-Bu alc., highly .beta.-selective (>92%) epoxidn. is effected in very high yields (90-95%). Thus, the above epoxidn. of 5-cholestenes I (R1 = OAc, OBz, O2CC5H11, R2 = H, R3 = Me; R1 = H, R2 = OBz, R3 = Me; R1 = OAc, R2 = H, R3 = CH2OAc) gave the corresponding .beta.-epoxides II in 90-94% yield.

IT 107419-88-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by stereoselective epoxidn. of 5-unsatd. deriv. with permanganate in presence of copper sulfate)

RN 107419-88-5 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, benzoate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 10 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

L16 ANSWER 12 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:39144 CAPLUS
DOCUMENT NUMBER: 116:39144
TITLE: Cholesterol feeding increases plasma and aortic tissue cholesterol oxide levels in parallel: further evidence for the role of cholesterol oxidation in atherosclerosis
AUTHOR(S): Hodis, Howard N.; Crawford, Donald W.; Sevanian, Alex
CORPORATE SOURCE: Sch. Med., Univ. South. California, Los Angeles, CA, 90033, USA
SOURCE: Atherosclerosis (Shannon, Ireland) (1991), 89(2-3), 117-26
CODEN: ATHSBL; ISSN: 0021-9150
DOCUMENT TYPE: Journal
LANGUAGE: English

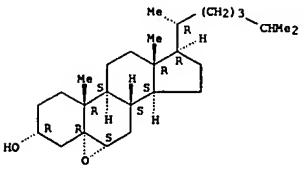
AB To det. the relationship between plasma and arterial wall oxysterols, plasma and aortic tissue from 7 New Zealand White rabbits fed a high cholesterol (1%) diet for 6 wk was compared to plasma and aortic tissue from 7 normocholesterolemic rabbits fed std. rabbit chow. Cholesterol and cholesterol oxide fractions were isolated and analyzed by gas chromatog. Normocholesterolemic plasma and aortic tissue contained low levels of cholest-5-ene-3.beta.,7.alpha.-diol, cholesta-3,5-dien-7-one, 5,6.alpha.-epoxy-5.alpha.-cholestan-3.alpha.-ol, cholest-5-ene-3.beta.,7.beta.-diol, and 5.alpha.-cholestane-3.beta.,5,6.beta.-triol, whereas hypercholesterolemic plasma and atherosclerotic aorta contained higher levels of these products. Furthermore, 5,6.beta.-epoxy-5-.alpha.-cholestan-3.beta.-ol not found in normocholesterolemic plasma or aortic tissue was present in substantial amts. in both hypercholesterolemic plasma and atherosclerotic aortic tissue. Cholest-5-ene-3.beta.,25-diol and 3.beta.-hydroxycholest-5-ene-7-one not present in normocholesterolemic aorta were present in the atherosclerotic aorta. The oxysterol chromatog. patterns of normocholesterolemic plasma and normocholesterolemic aortic tissue were similar to each other as were the oxysterol chromatog. patterns of hypercholesterolemic plasma and atherosclerotic aortic tissue. The chromatog. patterns the normocholesterolemic and hypercholesterolemic samples differed however. Possible absorption of the low levels of cholesterol oxides present in the cholesterol feed could account for the elevation of only some of the oxysterols. Thus cholesterol oxides exist at some basal level in normocholesterolemia, and these levels are increased by cholesterol-feeding which results in hypercholesterolemia. Also, there is a strong relationship between plasma and aortic arterial wall levels of cholesterol oxides, and in addn. to exogenous sources, formation of cholesterol oxides may proceeds via free radical oxidn. acting upon elevated cholesterol levels resulting in the accumulation of these potentially cytotoxic and atherogenic products.

IT 2953-38-0, 5,6.alpha.-Epoxy-5.alpha.-cholestan-3.alpha.-ol
RL: BIOL (Biological study)
(of aorta and blood plasma, hypercholesterolemia effect on, atherosclerosis in relation to)

RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L16 ANSWER 12 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 13 OF 45 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1990:441110 CAPLUS
DOCUMENT NUMBER: 113:41110
TITLE: Preparation and isomerization of some steroidal hydroxy epoxides
AUTHOR(S): Morrison, George A.; Wilkinson, John B.
CORPORATE SOURCE: Sch. Chem., Univ. Leeds, Leeds, LS2 9JT, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1989), (11), 2003-7
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:41110

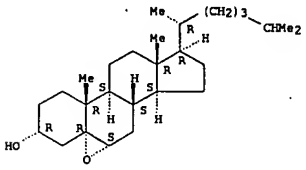
AB Title epoxides 4.beta.,5.beta.-I and 4.alpha.,5.alpha.-I and their resp. 3-epimers 4.beta.,5.beta.-II and 4.alpha.,5.alpha.-II were prepd. 4.alpha.,5.alpha.-II and isomeric 5.beta.,6.beta.-epoxide III are interconvertible by a process of epoxide migration.

IT 2953-38-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-methylation of)

RN 2953-38-0 CAPLUS

CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 14 OF 45 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1985:615640 CAPLUS
DOCUMENT NUMBER: 103:215640
TITLE: Reactions of steroidal 5,6-epoxides and cyclohexene oxide with aluminum alkoxides
AUTHOR(S): Holland, Herbert L.; Khan, Saeed R.
CORPORATE SOURCE: Dep. Chem., Brock Univ., St. Catherines, ON, L2S 3A1, Can.
SOURCE: Canadian Journal of Chemistry (1985), 63(10), 2763-8
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:215640

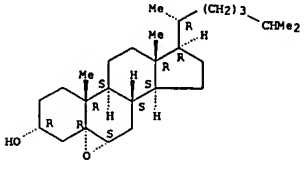
AB The isomeric epoxycholestanes I and II (Z = H2; H, HO; OCH2CH2O) were treated with aluminum isopropoxide or tert-butoxide. The latter series of reactions did not give identifiable material, but aluminum isopropoxide gave products derived from epoxide opening and rearrangement in all cases. With epoxides unsubstituted at C-3, aluminum isopropoxide functioned as a Lewis acid in promoting epoxide rearrangements. In the presence of a C-3 alc. function, addnl. products were obtained arising from fragmentation of the C-4,C-5 bond, or from .beta.-elimination of the epoxide involving the loss of a C-7 hydrogen. Meerwein-Pondorff redn. of product carbonyl groups was also obsd. Thus, treatment of I (Z = H2) with Al(OCHMe2)3 gave cholesta-3,4-diene, cholesta-4,6-diene, cholestane-5.alpha.,6.beta.-diol, and 5.beta.-cholestan-6-one, whereas I (Z = .alpha.-HO, .beta.-H) gave secocholestene III. C-3 ketal substituted epoxides were rearranged cleanly to 6-hydroxy-.DELTA.4-3-ketones. Cyclohexene oxide reacted with aluminum isopropoxide (but not with tert-butoxide) to give cyclohexyl ethers IV and V. Structures for these products are proposed based on their 13C NMR spectra, and a possible route for their formation is presented. None of the epoxides examd. in this study reacted with magnesium methoxide.

IT 2953-38-0 24116-45-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aluminum isopropoxide)

RN 2953-38-0 CAPLUS

CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

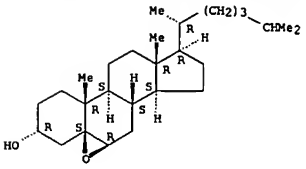


RN 24116-45-8 CAPLUS

CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

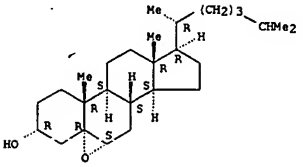
Absolute stereochemistry.

L16 ANSWER 14 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 15 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:22897 CAPLUS
DOCUMENT NUMBER: 100:22897
TITLE: Reactions of steroidal 4,5- and 5,6-epoxides with strong bases
AUTHOR(S): Holland, Herbert L.; Jahangir
CORPORATE SOURCE: Dep. Chem., Brock Univ., St. Catharines, ON, L2S 3A1, Can.
SOURCE: Canadian Journal of Chemistry (1983), 61(9), 2165-70
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: English
AB C-3 oxygenated and unsubstituted 4.alpha.,5.alpha.-, 4.beta.,5.beta.-, 5.alpha.,6.alpha.-, and 5.beta.,6.beta.-epoxy steroids were prepd., and the reactions of these compds. with strong bases were investigated. Only Et2Ni gave rise to product formation; .beta. elimination of the epoxide to give a .beta.-hydroxy olefin was obsd. in this case. The regioselectivity of product formation is consistent with a mechanism of rearrangement involving removal of an H located syn to the epoxide oxygen. In some cases, a directing influence from a polar substituent (OH) of the starting material was also apparent. The 13C NMR spectra of the steroidal epoxides were assigned; these data are diagnostic of the conformation of ring A of 4.alpha.,5.alpha.- and 4.beta.,5.beta.-epoxy steroids.
IT 2953-38-0
RL: PRP (Properties)
(base-catalyzed ring cleavage and carbon-13 NMR spectrum of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

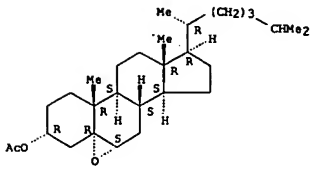


IT 2953-35-7 14456-17-8 24116-45-8
RL: PRP (Properties)
(carbon-13 NMR spectrum of)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

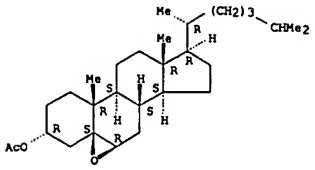
L16 ANSWER 15 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

L16 ANSWER 15 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



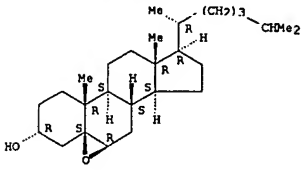
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



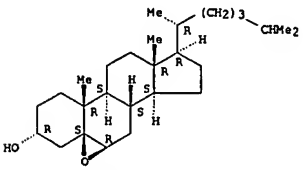
RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 16 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1983:595272 CAPLUS
DOCUMENT NUMBER: 99:195272
TITLE: 1,3-Acyl migration to an epoxide. Reversible rearrangement of 5,6.beta.-epoxyepicholesteryl acetate
AUTHOR(S): Holland, Herbert L.; Jahangir
CORPORATE SOURCE: Dep. Chem., Brock Univ., St. Catharines, ON, L2S 3A1, Can.
SOURCE: Journal of Organic Chemistry (1983), 48(18), 3134-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Treatment of epicholesteryl acetate (I) with 3-ClC6H4C(O)O2H in CH2Cl2 gave, in addn. to the anticipated 5,6-epoxides II and III, the cholestanetriol monoacetate IV. The latter is formed by reaction of III with H2O, and regenerates the epoxide on heating. A mechanism for this interconversion involves a 1,3-acyl migration.
IT 24116-45-8P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in epoxidn. of epicholesterol acetate)
RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

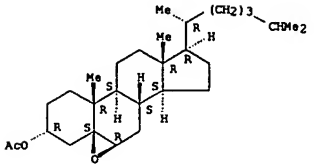
Absolute stereochemistry.



IT 14456-17-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and acyl migration reaction of)
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

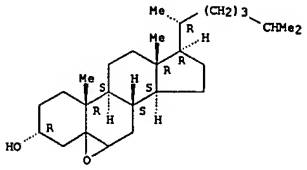
Absolute stereochemistry.

L16 ANSWER 16 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 17 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1982:199985 CAPLUS
DOCUMENT NUMBER: 96:199985
TITLE: Chromatographic properties and mass spectrometric fragmentation of dioxygenated C27-, C28-, and C29-steroids
AUTHOR(S): Aringer, Leif; Nordstroem, Lennart
CORPORATE SOURCE: Dep. Obstet. Gynecol., Karolinska Sjukhuset, Stockholm, S-104 01, Swed.
SOURCE: Biomedical Mass Spectrometry (1981), 8(5), 183-203
CODEN: BMSYAL; ISSN: 0306-042X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The sepn. and chromatog. characteristics of 165 dioxygenated C27-29 steroids on Sephadex gel, thin-layer, and gas chromatog. and the mass spectral fragmentation patterns of the steroids and their Me3Si ethers are reported. The results should aid the systematic identification of steroids from metabolic expts.
IT 75764-48-6P 80598-42-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., chromatog. sepn., and mass spectrum of)
RN 75764-48-6 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

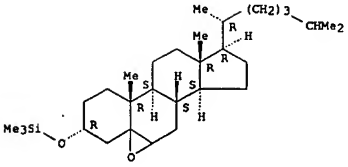
Absolute stereochemistry.



RN 80598-42-1 CAPLUS
CN Silane, [[(3.alpha.)-5,6-epoxycholestan-3-yl]oxy]trimethyl- (9CI) (CA INDEX NAME)

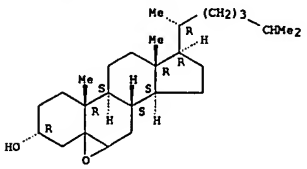
Absolute stereochemistry.

L16 ANSWER 17 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



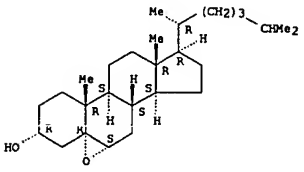
L16 ANSWER 18 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1980:632886 CAPLUS
DOCUMENT NUMBER: 93:232886
TITLE: Oxidation of 3-oxygenated .DELTA.4- and .DELTA.5-C27 steroids by soybean lipoxygenase and rat liver microsomes
AUTHOR(S): Aringer, Leif
CORPORATE SOURCE: Dep. Obstet. Gynecol., Karolinska Sjukhuset, Stockholm, S-104 01, Swed.
SOURCE: Lipids (1980), 15(8), 563-71
CODEN: LPDSAP; ISSN: 0024-4201
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The formation of dioxygenated metabolites of cholesterol, epicholesterol, 4-cholesten-3.beta.-ol, 4-cholesten-3.alpha.-ol, 4-cholesten-3-one, and 4-stigmasten-3-one was studied after incubations with soybean lipoxygenase and linoleic acid. From cholesterol and epicholesterol, the 7.alpha.-hydroxy, 7.alpha.-hydroperoxy, 7.beta.-hydroxy, 7.beta.-hydroperoxy, 7-oxo, and 5,6-epoxy derivs. were formed, as well as 6.beta.-hydroxy-4-cholesten-3-one. All .DELTA.4-steroids were hydroxylated in the 6.alpha.- and 6.beta.-positions. The ratios between the yields of 6.beta.- and 6.alpha.-hydroxylated metabolites varied between 3:1 and 2:1. Incubations with 4-cholesten-3.alpha.-ol and 4-cholesten-3.beta.-ol also yielded the 4,5-epoxides of these steroids. The ratios between the yields of 4.beta.,5.beta.- and 4.alpha.,5.alpha.-epoxides were .apprx.4:1 for 4-cholesten-3.beta.-ol and .apprx.3:2 for 4-cholesten-3.alpha.-ol. With Fe-supplemented microsomes from rat liver, the compds. formed were qual. and quant. the same as with soybean lipoxygenase, whereas with 18,000 g rat liver supernatant fractions, the yields of all products formed, except for 7.alpha.-hydroxycholesterol and 6.beta.-hydroxy-4-cholesten-3-one, were markedly decreased. Apparently, a rat liver microsomal 6.beta.-hydroxylase exists which can use 4-cholesten-3-one as a substrate, and previous findings of similarities between soybean lipoxygenase and a nonspecific lipoxygenase in rat liver microsomes are extended by these studies.
IT 75764-48-6P
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from epicholesterol by liver microsomal hydroxylase and soybean lipoxygenase)
RN 75764-48-6 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



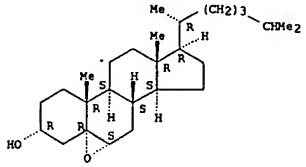
L16 ANSWER 19 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1980:586656 CAPLUS
DOCUMENT NUMBER: 93:186656
TITLE: Stereocontrolled catalytic hydrogenations of 3-oxocholestanes and some related compounds to the corresponding axial 3-alcohols
AUTHOR(S): Ishige, Masayoshi; Shiota, Michio
CORPORATE SOURCE: Chem. Lab., Ochanomizu Univ., Tokyo, Japan
SOURCE: Canadian Journal of Chemistry (1980), 58(11), 1061-8
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Hydrogenations of 5.alpha.-cholestan-3-ones and related compds. with Urushibara nickel A catalyst in cyclohexane gave a preponderance of unstable axial 3.alpha. alcs. Product ratios of axial alcs. decreased with increasing solvent polarity. For 3-oxo-5.alpha.-steroids, the cobalt catalyst was less selective for the axial alc. formation. Conversion of 5.beta.-cholestan-3-one into the axial 3.beta. alc. was attained by hydrogenation catalyzed by Urushibara cobalt A catalyst in MeOH. For a 5.beta.-ketone, alc. media with higher polarities were more favorable for giving the axial alc. The stereochem. of the products obtained from hydrogenations conducted in nonpolar solvents may be understood in terms of the steric congestion around the ketone carbonyl group. However, when alcs. were used as solvents, the product ratios obtained did not correlate well with the congestion ratios of substrates.
IT **2953-38-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by hydrogenation of 5,6.alpha.-epoxy-5.alpha.-cholestan-3-one)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



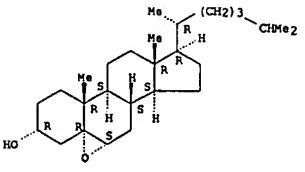
L16 ANSWER 20 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1979:6610 CAPLUS
DOCUMENT NUMBER: 90:6610
TITLE: Reactions of polyvalent iodine compounds, VIII. Behavior of steroid olefins towards iodine(III) trifluoroacetate
AUTHOR(S): Linskeseder, Maximilian; Zbiral, Erich
CORPORATE SOURCE: Inst. Org. Chem., Univ. Wien, Vienna, Austria
SOURCE: Justus Liebigs Annalen der Chemie (1978), (7), 1076-88
CODEN: JLACBF; ISSN: 0075-4617
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Steroidal olefins treated with I(O2CCF3)3 in Et2O at 0.degree. or with I(O2CCF3)3 in CH2Cl2 cooled to -78.degree. under argon gave epoxides. Thus, 5.alpha.-cholest-2-ene gave 2.beta.,3.beta.-epoxy-5.alpha.-cholestane and 3-methyl-5.alpha.-cholest-2-ene gave 3.beta.-methyl-5.alpha.-cholestane-2.alpha.,3.alpha.-diol, 2.alpha.,3.alpha.-epoxy-3.beta.-methyl-5.alpha.-cholestane, 2.alpha.-iodo-3.beta.-methyl-5.alpha.-cholestan-3.alpha.-ol, and 2.beta.-acetyl-A-nor-5.alpha.-cholestane. Similarly, cholest-4-ene and cholest-5-ene gave 4.alpha.,5.alpha.-epoxycholestane and 5.alpha.,6.alpha.-epoxycholestane, resp. Oxidn. of cholesterol and epicholesterol gave 5.beta.,6.beta.-epoxycholestan-3.beta.-ol and 5.alpha.,6.alpha.-epoxycholestan-3.alpha.-ol.
IT **2953-38-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



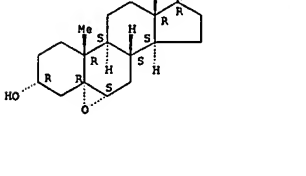
L16 ANSWER 21 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1976:524233 CAPLUS
DOCUMENT NUMBER: 85:124233
TITLE: Neighboring group effects in epoxide ring opening; cis-epoxy-alcohols
AUTHOR(S): Glotter, Erwin; Krinsky, Pnina; Rejtoe, Miriam; Weissenberg, Martin
CORPORATE SOURCE: Fac. Agric., Hebrew Univ. Jerusalem, Rehovot, Israel
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1976), (13), 1442-5
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Acid-catalyzed epoxide ring cleavage of 3.beta.,4.beta.-epoxy-5.beta.-cholestan-5-ol gave only diequatorial products by C-3-O cleavage whereas 3.alpha.,4.alpha.-epoxy-5.alpha.-cholestan-5-ol gave both diaxial and diequatorial products by attack at C-3 and C-4. This is due to the reinforcement of the nearby C-4-O bond by the neighboring OH group and the degree of steric hindrance to nucleophilic attack. 2.alpha.,3.alpha.-Epoxy-5.alpha.-cholestan-1.alpha.-ol and its acetate with HBr gave 1.1:1 and 2.5:1 mixts. of diequatorial and diaxial opening-derived products, resp; the larger amt. of diequatorial product from the acetate is due to greater reinforcement of the C-2-O bond. 2,3-Dihydro-27-deoxywithaferin A with HBr gave equal amts. of C-6-O and C-5-O cleavage products; its acetate underwent trans-diequatorial epoxide cleavage.
IT **2953-38-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



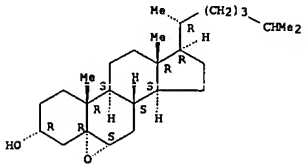
L16 ANSWER 22 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1976:463227 CAPLUS
DOCUMENT NUMBER: 85:63227
TITLE: Intramolecular catalysis. Part III. Effect of a neighboring hydroxy-group on the opening of steroidal aziridines with azide anions
AUTHOR(S): Houminer, Yoram
CORPORATE SOURCE: Dep. Org. Chem., Hebrew Univ., Jerusalem, Israel
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1976), (10), 1037-42
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 5.alpha.,6.alpha.-Iminocholestan-3.alpha.-ol and its 3.beta.-OH isomer were prepd. from 5.alpha.-azido-6.beta.-chlorocholestanol and their structures established. Their reactions with NaN3 in Me2CO-H2O (2:1) gave the corresponding trans-diaxial amino azides. Kinetic studies showed that the reaction rate ratio of 2:1 is due to stablization of the pos. charge on the protonated N by the 3.alpha.-OH group by internal solvation, thus increasing the basicity of the amino group. Comparison was made between the aziridines and the related epoxides.
IT **2953-38-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(azidolysis of, kinetics of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



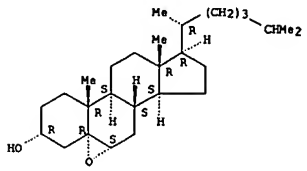
L16 ANSWER 23 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1975:606473 CAPLUS
DOCUMENT NUMBER: 83:206473
TITLE: Intramolecular catalysts. II. Electrophilic anchimeric assistance by a hydroxy group in the opening of steroidal epoxides by azide anions
AUTHOR(S): Houminer, Yoram
CORPORATE SOURCE: Dep. Org. Chem., Hebrew Univ., Jerusalem, Israel
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1975), (17), 1663-9
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 4.alpha.,5.alpha.-Epoxycholestane and its 7-substituted derivs. and 5.alpha.,6.alpha.-epoxycholestane and its 3-substituted derivs. were prepd. and their structures established. The stereochem. of epoxidn. of the substituted cholest-4-enes I (R = OH, OAc, R1 = H; R = H, R1 = OH; RR1 = O) and cholest-5-enes II (R = OH, R1 = H, R = H, R1 = OH; RR1 = O) with 3-ClC6H4C(O)OOH was discussed. Treatment of 4.alpha.,5.alpha.- and 5.alpha.,6.alpha.-epoxides with NaN3 in refluxing Me2CO-H2O (2:1) caused epoxide ring opening and formation of the corresponding trans diaxial hydroxy azides. The presence of a 7.alpha.-OH group in 4.alpha.,5.alpha.-epoxycholestane and of a 3.alpha.-OH group in 5.alpha.,6.alpha.-epoxycholestane caused acceleration of the epoxide ring opening by the nucleophile. Evidence for an intramol. electrophilically assisted reaction and factors which affect the mechanisms of these reactions were discussed.
IT 2953-38-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and nucleophilic ring opening of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



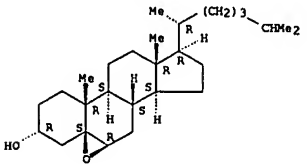
L16 ANSWER 24 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1975:564426 CAPLUS
DOCUMENT NUMBER: 83:164426
TITLE: Cleavage reactions of steroidal epoxides
AUTHOR(S): Morrison, G. A.; Wilkinson, J. B.
CORPORATE SOURCE: Dep. Org. Chem., Univ. Leeds, Leeds, UK
SOURCE: Tetrahedron Letters (1975), (31), 2713-16
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Epoxide migration, in which interconversion of vicinal hydroxy epoxides occurred by intramol. nucleophilic attack of an oxyanion on an adjacent epoxide, was an important process in the cis ring cleavage reactions of steroidal epoxides. Thus, the epoxide I on treatment with HClO4 formed initially the isomeric hydroxy epoxide II, which then underwent normal diaxial cleavage of the oxirane ring to give III.
IT 2953-38-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(ring cleavage of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



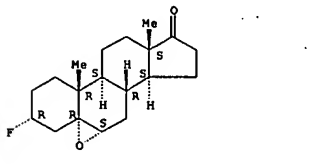
L16 ANSWER 25 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1974:37382 CAPLUS
DOCUMENT NUMBER: 80:37382
TITLE: Reactions at 3.beta.-mesyloxycholestane-5.alpha.6.beta.-diol and cholest-2-ene-5.alpha.,6.beta.-diol acetates
AUTHOR(S): Tsui, P.; Just, G.
CORPORATE SOURCE: Dep. Chem., McGill Univ., Montreal, QC, Can.
SOURCE: Canadian Journal of Chemistry (1973), 51(21), 3502-7
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Reaction of cholestanetriol mesylate I (R = H) with KOCMe3 gave 3.alpha.,5.alpha.-epoxycholestan-6.beta.-ol, which rearranged to 5.beta.,6.beta.-epoxycholestan-3.alpha.-ol. Treatment of I (R = Ac) with Et3N gave cholest-2-ene-5.alpha.,6.beta.-diol diacetate, but heating I (R = Ac) in pyridine DMF gave cholestane-3.alpha.,5.alpha.,6.beta.-triol 3,6-diacetate. Cholest-2-ene-5.alpha.,6.beta.-diol diacetate (II) reacted with m-ClC6H4CO2OH to give 2.alpha.,3.alpha.-epoxycholestane III. Reaction of II with aq. N-bromosuccinimide gave 2.beta.-bromo-3.alpha.-hydroxy-5.alpha.,6.beta.-diacetoxycholestane (IV). III and IV rearranged in acid to give 2,5-epoxycholestane V.
IT 24116-45-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



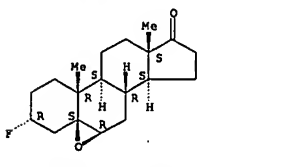
L16 ANSWER 26 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1973:97862 CAPLUS
DOCUMENT NUMBER: 78:97862
TITLE: Studies of fluorinated steroids by mass spectrometry. IV. 3-Fluoro-5,6-epoxysteroids
AUTHOR(S): Borgna, J. L.; Guida, A.; Fonzes, L.
CORPORATE SOURCE: Ec. Natl. Super. Chim., Montpellier, Fr.
SOURCE: Organic Mass Spectrometry (1973), 7(2), 133-9
CODEN: ORMSBG; ISSN: 0030-493X
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Studies of 5,6-epoxy steroids fluorinated on carbon in position 3 do not permit the influence of the fluorine atom on the fragmentation to be clearly stated. On the other hand, it is shown that the stereochem. of the epoxide plays a prominent part in the fragmentation.
IT 28344-36-7 28344-37-8 28344-39-0
28344-40-3
RL: PRP (Properties)
(mass spectrum of)
RN 28344-36-7 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-fluoro-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



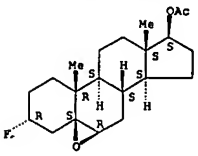
RN 28344-37-8 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-fluoro-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



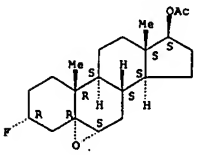
RN 28344-39-0 CAPLUS
CN Androstan-17-ol, 5,6-epoxy-3-fluoro-, acetate, (3.alpha.,5.beta.,6.beta.,17.beta.)- (9CI) (CA INDEX NAME)

L16 ANSWER 26 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)
Absolute stereochemistry.



RN 28344-40-3 CAPLUS
CN Androstan-17-ol, 5,6-epoxy-3-fluoro-, acetate, (3.alpha.,5.alpha.,6.alpha.,17.beta.)- (9CI) (CA INDEX NAME)

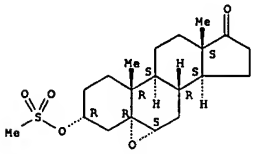
Absolute stereochemistry.



L16 ANSWER 27 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

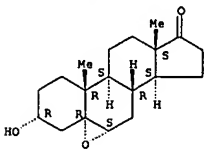
L16 ANSWER 27 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1972:488768 CAPLUS
DOCUMENT NUMBER: 77:88768
TITLE: Aromatization of 3-substituted 5.alpha.,6.alpha.-epoxy steroids
AUTHOR(S): Ogilvie, A. G.; Hanson, J. R.
CORPORATE SOURCE: Sch. Mol. Sci., Univ. Sussex, Brighton, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1972), (16), 1981-3
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 4-Methylestra-1,3,5(10)-trien-17-one and small amts. of androst-4-ene-6,17-dione and a 17-oxo anthrasteroid were formed when 3.beta.-substituted 5.alpha.,6.alpha.-epoxyandrostan-17-ones (substituent = MeSO2O, OAc, Cl, OH) were treated with HBr-AcOH.
IT 38522-34-8P 38522-36-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 38522-34-8 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-[(methylsulfonyl)oxy]-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



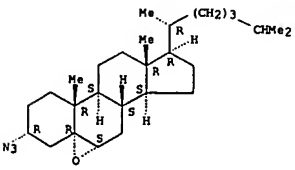
RN 38522-36-0 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



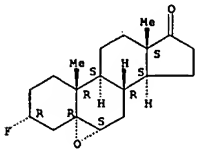
L16 ANSWER 28 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1971:496996 CAPLUS
DOCUMENT NUMBER: 75:96996
TITLE: Inhibitors and stimulators of cholesterolgenesis enzymes. Structure-activity study in vitro of amino and selected nitrogen-containing analogs of 5.alpha.-cholestane-3.beta.,5.alpha.,6.beta.-triol
AUTHOR(S): Witiak, Donald T.; Parker, Roger A.; Dempsey, Mary E.; Ritter, Mary C.
CORPORATE SOURCE: Coll. Pharm., Ohio State Univ., Columbus, OH, USA
SOURCE: Journal of Medicinal Chemistry (1971), 14(8), 684-93
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The 3.beta.-, 3.alpha.-, 5.alpha.-, and 6.beta.-monoamino and 3.beta.,6.beta.-diamino analogs of 5.alpha.-cholestane-3.beta.,5.alpha.,6.beta.-triol (I) and selected azido and oximino intermediates, such as 5.alpha.-azido-5.alpha.-cholestane-3.beta.,6.beta.-diol 3-acetate (II) and 3-oximino-5.alpha.-cholestane-3.beta.,6.beta.-diol 6-acetate were synthesized and tested for biolog. activity. The compds. inhibited the incorporation of labeled acetate and mevalonate into nonsaponifiable products catalyzed by a rat liver homogenate and most inhibited the 2 semipurified liver enzymes, .DELTA.7-sterol .DELTA.5-dehydrogenase and .DELTA.5,7-sterol .DELTA.7-reductase. 3,6-Dioximino-5.alpha.-cholestan-5.alpha.-ol slightly stimulated both enzymes while 3.beta.,6.beta.-diamino-5.alpha.-cholestan-5.alpha.-ol stimulated the dehydrogenase but inhibited the reductase and II stimulated the reductase but inhibited the dehydrogenase. These compds. apparently exert their actions by a direct effect on the reductase and by altering the function of a sterol carrier protein required for full activity of the enzyme.
IT 34408-46-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 34408-46-3 CAPLUS
CN 5.alpha.-Cholestane, 3.alpha.-azido-5,6.alpha.-epoxy- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



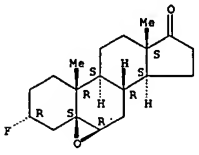
L16 ANSWER 29 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1970:466798 CAPLUS
DOCUMENT NUMBER: 73:66798
TITLE: Fluorinated steroids. Synthesis of 3.alpha.-fluoro-17.beta.-acetoxyestr-5(10)-ene
AUTHOR(S): Borgna, Jean L.; Mousseron-Canet, Magdeleine
CORPORATE SOURCE: Lab. Chim. Photobioorg., Ecole Nat. Super. Chim., Montpellier, Fr.
SOURCE: Bulletin de la Societe Chimique de France (1970), (6), 2218-25
CODEN: BSCFAS; ISSN: 0037-8968
DOCUMENT TYPE: Journal
LANGUAGE: French
AB I is irradiated to give a mixt. of 3.alpha.-fluoro-17.beta.-acetoxyestr-5(10)-ene (II) and III. IV is treated with Et2NCF2CHClF to give V, and V is converted to I in a series of reactions.
IT **28344-36-7P 28344-37-8P 28344-39-0P**
28344-40-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 28344-36-7 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-fluoro-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 28344-37-8 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-fluoro-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

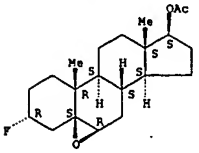
Absolute stereochemistry.



L16 ANSWER 29 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

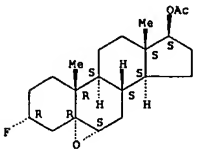
RN 28344-39-0 CAPLUS
CN Androstan-17-ol, 5,6-epoxy-3-fluoro-, acetate, (3.alpha.,5.beta.,6.beta.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



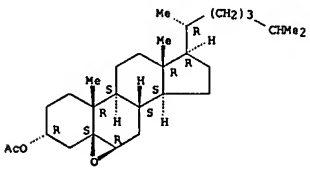
RN 28344-40-3 CAPLUS
CN Androstan-17-ol, 5,6-epoxy-3-fluoro-, acetate, (3.alpha.,5.alpha.,6.alpha.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



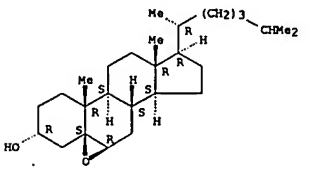
L16 ANSWER 30 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1969:502111 CAPLUS
DOCUMENT NUMBER: 71:102111
TITLE: Reactions of epoxides. XXI. Boron trifluoride catalyzed rearrangements of some 3.alpha.-substituted-5,6-epoxycholestanes
AUTHOR(S): Coxon, James M.; Hartshorn, Michael P.; Muir, C. N.
CORPORATE SOURCE: Univ. Canterbury, Christchurch, N. Z.
SOURCE: Tetrahedron (1969), 25(17), 3925-33
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 3.alpha.-Hydroxy-5,6-epoxycholestanes gave 6-hydroxy-3.alpha.,10.alpha.-epoxy-5.beta.-methyl-19-nor compds., such as I, in addn. to the 6-oxo analogs and backbone-rearranged .DELTA.13(17)-analogs, such as II, on BF3-catalyzed rearrangement. Similar treatment of 3.alpha.-acetoxy-5.beta.,6.beta.-epoxycholestane gave 5.alpha.-acetoxycholestane-3.alpha.,6.beta.-diol.
IT **14456-17-8P 24116-45-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

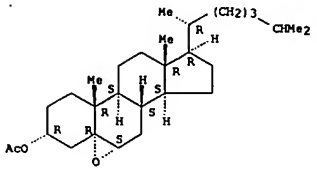


L16 ANSWER 30 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

L16 ANSWER 31 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1968:3101 CAPLUS
DOCUMENT NUMBER: 68:3101
TITLE: Reactions of epoxides. XVI. Boron trifuloride catalyzed rearrangement of 3.alpha.-acetoxy-5,6.alpha.-epoxy-5.alpha.-cholestane
AUTHOR(S): Coxon, James M.; Hartshorn, Michael P.; Muir, C. N.; Richards, Kenneth Edward
CORPORATE SOURCE: Univ. Canterbury, Christchurch, N. Z.
SOURCE: Tetrahedron Letters (1967), (38), 3725-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Treatment of 3.alpha.-acetoxy-5,6.alpha.-epoxy-5.alpha.-cholestane (I) (R1 = H, R2 = OAc) (II) with BF3.Et2O in dry C6H6 according to Henbest, et al. (CA 52: 10132d), but with a reaction time of 25 sec., chromatog. of the mixt. of at least 6 compds. on deactivated Al2O3, and elution with 9:1 ligroine-C6H6 gave 8% fluorohydrin (III) (R1 = H, R2 = OAc)(IV), m. 114-15.degree.. IV adsorbed on Al2Cl3 and eluted with Et2O regenerated II. Elution of the original column with 9:1 ligroine-C6H6 yielded 17% slightly impure material, recrystd. from C5H12 to give the known 6-ketone (V) (R1 = H, R2 = OAc) (VI). Further elution with the same solvent gave 37% oily rearranged compd. (VII) (R = .alpha.-OH, .beta.-H) (VIII), C29H48O3, pos. C(NO2)4 test. CrO3-Me2CO oxidn. of VIII gave the corresponding 6-ketone VII (R = O), m. 108-9.degree., [.alpha.]D 81.5.degree., giving a pos. Cotton curve, a 122 (MeOH), 4.85 m. Elution with C6H6 gave an oily mixt. of 4% unidentified oil and 27% rearranged 8,14-olefin (IX, R = OAc) (X), pos. C(NO2)4 test. X hydrolyzed gave IX (R = OH), transformed by ozonolysis to give the diol diketone (XI). The reaction of II with BF3.Et2O proceeds predominantly by C-5-O cleavage and with preferred 19-Me migration. The preferred cleavage of the epoxide is accompanied by conformational changes leading to a carbonium ion (XII) in which ring B adopts a skew form. The relatively low yield of IV as compared with that from the epimer I (R1 = OAc, R2 = H) was rationalized in terms of the dipole-dipole interaction between the BF3 coordinated axial 3.alpha.-acetate group and the 5.alpha.-O-BF3 function during fluorohydrin formation from II.
IT **2953-35-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(rearrangement of, in presence of boron fluoride (BF3))
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

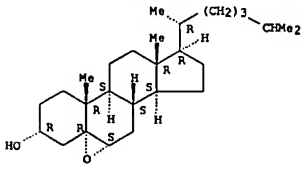
Absolute stereochemistry.

L16 ANSWER 31 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 32 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1967:464635 CAPLUS
DOCUMENT NUMBER: 67:64635
TITLE: Displacement and elimination reactions of 5.alpha.,6.alpha.-epoxy-3.beta.-cholestanyl p-toluenesulfonate in dimethylformamide
AUTHOR(S): Selter, Gerald A.; McMichael, Kirk D.
CORPORATE SOURCE: Washington State Univ., Pullman, WA, USA
SOURCE: Journal of Organic Chemistry (1967), 32(8), 2546-51
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Products of the solvolysis of 5.alpha.,6.alpha.-epoxy-3.beta.-cholestanyl p-toluenesulfonate (I) in HCONMe2 contg. Li2CO3 and (or) LiCl were isolated and characterized. These products appear to be formed by successive displacement and elimination reactions. Convenient prepns. of 2,4,6-cholestatriene (III) and 5.alpha.,6.alpha.-epoxy-3.alpha.-cholestanyl formate (II) are described, as well as an example of displacement with over-all retention brought about by sucsuccessive displacements of chloride. 27 references.
IT **2953-38-0P 13095-31-3P 13095-33-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

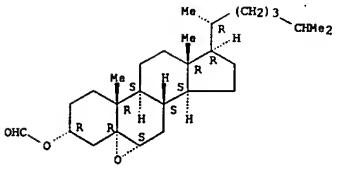
Absolute stereochemistry.



RN 13095-31-3 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, formate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

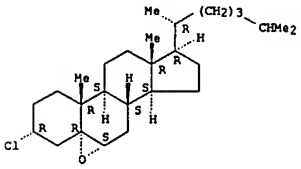
Absolute stereochemistry.

L16 ANSWER 32 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 13095-33-5 CAPLUS
CN 5.alpha.-Cholestane, 3.alpha.-chloro-5,6.alpha.-epoxy- (7CI, 8CI) (CA INDEX NAME)

Absolute stereochemistry.



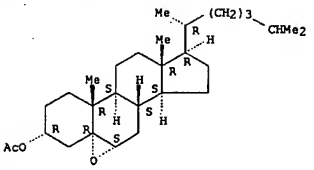
L16 ANSWER 33 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1967:95274 CAPLUS
DOCUMENT NUMBER: 66:95274
TITLE: Steric orientation in the epoxidation of sterols. I. Reactivity of epicholesterol and epiandrostenolone
AUTHOR(S): Mousseron-Canet, Magdeleine; Guilleux, Jean C.
CORPORATE SOURCE: Ecole Nat. Super. Chim., Montpellier, Fr.
SOURCE: Bulletin de la Societe Chimique de France (1966), 1966(12-3853-8), 3853-8
CODEN: BSCFAS; ISSN: 0037-8968
DOCUMENT TYPE: Journal
LANGUAGE: French

AB Treatment of Ia with O-HOl, CC6H4CO3H in C6H6 gives IIa. (a, R1 = .alpha.-H, .beta.-C8H17) and (b, R1 = OCH2CH2O) throughout this abstr. There is little change in CHCl3, Et2O-CHCl3 (3:1), or Et2O. Thus, in ethercal medium 90% IIa, 5% IIIa, and some hydrolysis products are formed. In Et2O-CHCl3 (3:1) Ia reacts 3.8 times as fast as IVa. Epoxidn. of Ib gives .apprx.100% IIb, m. 236-8.degree., [.alpha.]25D -100.degree. (dioxane). Epoxidn. of Va in anhyd. C6H6 yields 67% mixt. of 53% VIa, m. 111-12.degree., [.alpha.]25D -9.degree. (dioxane), and 47% VIIa, gum, [.alpha.]25D 10.degree. (dioxane), and 33% hydrolysis products. The stereoselectivity is attributed to formation of the intermediate VIII. The ir pectra of II in CCl4 show a single OH stretch band at 3565-70.degree. m.-1 for OH H-bonded to the epoxide. Epoxidn. of Va in Et2O gives a triol monoacetate, m. 65.degree., [.alpha.]25D -15.degree. (dioxane), LiAlH4 redn. of which yields IXa, m. 205-6.degree., [.alpha.]30D -4.degree. (dioxane), .nu.max. (CCl4) 3631 (free secondary OH), 3615 (free tertiary OH), 3500 cm.-1 (H-bonded secondary OH). LiAlH4 redn. of IIb yields Xb, m. 170.degree., .nu.max. (CCl4) 3613 (free tertiary OH), 3515 cm.-1 (H-bonded secondary OH). Treatment of XIb with MeSO2Cl in pyridine yields XIIb, m. 153.degree. (decompn.), [.alpha.]20D 58.degree. (dioxane), which with AcCl and PhNMe2 in CHCl3 gives Vb, m. 130-1.degree., [.alpha.]20D -53.degree. (dioxane). LiAlH4 redn. of Vb yields Ib, m. 136-7.degree., [.alpha.]20D -78.degree. (dioxane). N.M.R. data are given.

IT **2953-35-7P 14456-17-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

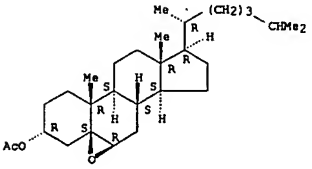
Absolute stereochemistry.



L16 ANSWER 33 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 34 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1965:463379 CAPLUS
DOCUMENT NUMBER: 63:63379
ORIGINAL REFERENCE NO.: 63:11653g-h,11654a-h,11655a-h,11656a-d
TITLE: 19-Nor-5.beta.-methyl steroids. III. Acetolyses of 3-methoxy steroids
AUTHOR(S): Snatzke, Guenther
CORPORATE SOURCE: Univ. Bonn, Germany
SOURCE: Ann. Chem. (1965), 686, 167-81
DOCUMENT TYPE: Journal
LANGUAGE: German

AB cf. CA 61, 14743c. Three of the by products occurring on Westphal rearrangement of 3.beta.-methoxy-6.beta.-acetoxy-5.alpha.-cholestan-5-ol (I) were identified as II, III, and IV. III and IV were formed by acetolysis of II. The 6-monoacetate (V) of 5.alpha.-cholestane-3.alpha.,5,6.beta.-triol (Va) gave a cyclic sulfite (VI) with SOCl2, while the 3-monoacetate (VII) gave the 5.alpha.,6.alpha.epoxide (VIII). The acetolysis of satd. and unsatd. 3.beta.- and 3.alpha.methoxy steroids with KHSO4 or SnCl4 in Ac2O gave varying amts. of the 3.beta.- and 3.alpha.-acetoxy compd. as well as the MeOH-cleavage product, while cholesterol Me ether (IX) under the same conditions gave only cholesteryl acetate (X). Reactions of 3.beta.-methoxy-19-nor-5.beta.-methyl-9-cholesten-6.beta.-ol (XI) were described. From 102 g. cholesterol, 102 g. 4-MeC6H4SO2Cl, and 124 cc. C5H5N was obtained 163 g. crude dry tosylate, which extd. 2 days with 3 l. MeOH and the ext. cooled gave 88.2 g. IX, m. 81-2.degree.; concn. of the mother liquor gave an addnl. 6.8 g. IX. IX (1 part) suspended in 10 parts 88% HCO2H treated with 1 part 30% H2O2, the mixt. stirred 2 hrs. at 40-2.degree. until dissoln., the soln. let stand overnight at room temp. and poured into aq. NaCl, the ppt. filtered off and heated 15 min. with 32 parts MeOH and 1.2 parts 25% aq. NaOH on a boiling water bath, and the soln. cooled, acidified, and dild. with H2O gave 97% IXa, m. 149-52.degree., which acetylated with Ac2O-C5H5N at .apprx.20.degree. or with only Ac2O at 100.degree. gave I, m. 117.5-19 (100:100:43 dioxane-MeOH-H2O). I (19.1 g.) dissolved in 245 cc. Ac2O by heating, the soln. treated with 2.55 g. KHSO4 at 50-5.degree., stirred 20 min. at 50-5.degree., and refrigerated overnight gave 10.2 g. XII; the filtrate dild. with aq. NaCl and worked up gave an oil which partly solidified, which (4 g.) chromatographed on Al2O3 and eluted with petr. ether gave 935 mg. XII; further elution with petr. ether and 9:1 petr. ether-C6H6 gave 2.03 g. mixed fractions; further elution with 1:1 petr. ether-C6H6 gave 110 mg. III, followed by 1.59 g. mixed fractions; repeated chromatography of the mixed fractions gave II and IV. II(1.45 g.) dissolved in 20 cc. Ac2O at 75.degree., a very small amt. KHSO4 added, and the soln. stirred 20 min. at 75.degree., decompd. with concd. aq. NaCl, and extd. with EtOAc gave after work-up 1.43 g. viscous oil, having a diene content of .apprx.6%, showing 3 spots [Rf 0.13 (II), 0.19 (III), and 0.26 (IV)] on thin-layer chromatography (TLC) on silica gel G with CH2Cl2, which chromatographed on Al2O3 and eluted with 3:1 and 1:1 petr. ether-C6H6, C6H6, C6H6-CHCl3, CHCl3, and CHCl3 contg. 2% MeOH gave 504 mg. II, 515 mg. III, and 237 mg. IV, including amts. estd. from mixed fractions. II on alk. sapon. gave known 3.beta.-methoxy-4-cholesten-6.beta.-ol, m. 169-71.degree. (Me2CO). IV, m. 132-4.degree., [.alpha.]D -12 .+-. 2.degree. (c 0.93) (all in CHCl3), was identified by mixed m.p. and ir spectrum. III m. 105-7.degree., [.alpha.]D -124 .+-. 2.degree.(c0.98). Mixts. of II and III sapond. by alkali and the resulting mixt. sepd. by chromatography on Al2O3 gave noncryst. XIII; reacetylation giving cryst. III. IV remained unchanged under the conditions of acetolysis. A suspension of 400 mg. epicholesterol in 4 cc. 88% HCO2H heated 5 min. at 80.degree., cooled 40.degree., treated with 0.5 cc. 30% H2O2, and stirred 1 hr. at 40.degree., the resulting soln. let stand overnight at room temp. and decompd. with H2O, and the ppt. refluxed

L16 ANSWER 34 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

10 min. with 0.4 cc. 25% aq. NaOH in 12 cc. MeOH and worked up gave 436 mg. amorphous Va, [.alpha.]20D 3 .+-. 2.degree. (c 1.0), reacetylated to XIV, m. 92.degree. (MeOH), [.alpha.]25D -44 .+-. 2.degree. (c 1.0). XIV (159 mg.) in 30 cc. EtOH let stand overnight at .apprx.20.degree. with 3.55 cc. 0.1N NaOH and the soln. worked up with EtOAc gave 126 mg. V, m. 180-2.degree. (sinters above 178.degree. (Me2CO-H2O), m. 183.degree. (EtOAc), [.alpha.]25D -28.2 .+-. 2.degree. (c 1). 3.alpha.-Acetoxy-5.alpha.-cholestane remained unchanged under similar conditions. V (400 mg.) in 50 cc. C5H5N treated during 10 min. with 120 mg. SOCl2 in 20 cc. C5H5N at 0.degree., let stand 10 min. at room temp., decompd. with H2O, and worked up gave 392 mg. crude product contg. V, which sepd. on silica gel with iso-Pr2O gave 155 mg. VI, m. 134-5.degree. (MeOH), [.alpha.]20D 22.0 .+-. 1.0.degree. (c 1), which sapond. with aq. alc. KOH and acetylated gave XIV. XV (Schultz, CA 54, 11078a) (500 mg.) in 20 cc. 80% dioxane stirred 20 min. at room temp. with 75 mg. NaBH4 and dild. with H2O and the ppt. chromatographed on silica gel gave 178 mg. unchanged XV and 280 mg. gelatinous VII, [.alpha.]20D -20.0 .+-. 1.0.degree. (c 1); the XV used was purified by chromatography on SiO2 since it was sapond. on Al2O3 to XVI, m. 196.degree. (EtOH-petr. ether). VII (100 mg.) in 10 cc. C5H5N treated with 3 drops SOCl2 in 1 cc. C5H5N at 0.degree., let stand 0.5 hr. at room temp., decompd. with H2O, and worked up gave 92 mg. VIII, m. 111.degree. (MeOH), [.alpha.]20D -31.0 .+-. 1.0.degree. (c 1), sapond. (15 min. boiling with 10% aq. alc. KOH) to XVII, m. 142.degree. (15 min. boiling with 10% aq. alc. KOH) to XVII, m. 142.degree. (MeOH), [.alpha.]20D -22.5 .+-. 1.0.degree. (c 1). Crude Va obtained from 302 mg. epicholesterol kept 16 hrs. at 15.degree. with 10 cc. C5H5N and 20 cc. Ac2O and worked up gave 315 mg. oil, which chromatographed on Al2O3 and eluted with C6H6 and 1:1 C6H6-CHCl3 gave 159 mg. XIV; further elution with CHCl3 gave 30 mg. mixt. of monoacetates; final elution with CHCl3-MeOH gave unchanged Va and crude monoacetate (mixt. of VII and V). IXa (100 mg.) in 30 cc. C5H5N treated with 2 drops SOCl2, kept 10 min., decompd. with H2O, and worked up gave 80 mg. 3.beta.-methoxy-5,6.alpha.-oxido-5.alpha.-cholestane, m. 81.degree; (MeOH), [.alpha.]20D -52.0 .+-. 1.0.degree. (c 1). 3.beta.-Methoxy-5.alpha.-cholestane (XVIII) (902 mg.) dissolved in 45 cc. Ac2O by heating, a small amt. KHSO4 added, and the soln. stirred 20 min. at 75.degree., cooled strongly overnight, and worked up gave 801 mg. oil contg. (TLC) 4 compds., which chromatographed repeatedly on Al2O3 and SiO2 with petr. ether and C6H6 effected sepn. of 169 mg. 5.alpha.-cholest-2-ene (XIX), 198 mg. 3.beta.-acetoxy-5.alpha.-cholestane (XX), 115 mg. 3.alpha.-acetoxy-5.alpha.-cholestane (XXI), and 309 mg. unchanged XVIII. A similar expt. with 2 g. XVIII gave 29% XIX, 17% XX, 16% XXI, and 38% unchanged XVIII. No acetolysis of XVIII occurred with AgClO4-C5H5N complex in AcOH or Ac2O after 20 min. at 20.degree. or 75.degree.. Acetolysis of XVIII with AcCl in Ac2O at 75, 25, and 0.degree. led to extensive decompn. XVIII (500 mg.) dissolved in the least amt. MeNO2 and the soln. treated with 100 mg. AcCl, heated 20 min. at 75.degree., decompd. with aq. NaHCO3 in the cold, and worked up gave 482 mg. oil, which chromatographed on silica gel with C6H6 gave 260 mg. XIX, 144 mg. XX, 20 mg. XXI, and 46 mg. unchanged XVIII. Addn. of catalytic amts. HClO4 or AgClO4-C5H5N complex led to decompn. XVIII (100 mg.) in 15 cc. Ac2O treated with 1 drop SnCl4, let stand 20 min. at room temp., decompd. with H2O, and worked up and the product chromatographed on Al2O3 gave 22 mg. XIX, 31 mg. XX, 34 mg. XXI, and 24 mg. more polar compds. contg. in part 5.alpha.-cholestan-3.beta.-ol; no XVIII was detectable by TLC. XVIII (500 mg.) suspended in 30 cc. Ac2O treated with 10 drops 6% aq. HClO4 in Ac2O with stirring (dissoln. occurred in 5 min.) and after an addnl. 15 min. the soln. decompd. with H2O and worked up gave 516 mg. crude product, which was sepd. from more polar constituents by filtration of its CHCl3 soln. through silica gel and then repeatedly chromatographed on Al2O3 to give 108 mg. XIX, 204 mg. XX, and 184 mg. XXI.

L16 ANSWER 34 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)
3.alpha.-Methoxy-5.alpha.-cholestane (XXII) (200 mg.) dissolved in 20 cc. Ac2O, the soln. treated with a catalytic amt. KHSO4, stirred 20 min. at 75.degree., and worked up, and the product chromatographed like XVIII gave 90% XIX, 8% XX, and 2% XXI; only traces of unchanged XXII were detectable. 3.beta.-Methoxycholest-4-ene (300 mg.) in 45 cc. Ac2O acetolyzed similarly in the presence of KHSO4 and the crude product chromatographed on silica gel with petr. ether gave 267 mg. 3,5-cholestadiene (XXIII), m. 80.degree., [.alpha.]22D -119 .+-. 2.degree. (c 1), and 32 mg. mixt. of acetates; rechromatography of the mixt. gave 20 mg. 3.beta.-acetoxycholest-4-ene (XXIV) and mixed fractions contg. (TLC) up to .apprx.20% 3.alpha.-acetoxycholest-4-ene. 3.alpha.-Methoxycholest-4-ene (198 mg.) in 35 cc. Ac2O acetolyzed similarly and the crude product triturated with MeOH gave 168 mg. cryst. XXIII; the evapd. mother liquor gave 28 mg. XXIII contg. only a trace of XXIV. IX (600 mg.) in 20 cc. Ac2O acetolyzed similarly and the soln. strongly cooled gave 588 mg. unchanged IX. IX (100 mg.) suspended in 15 cc. Ac2O treated with 1 drop SnCl4, the mixt. stirred 30 min. at room temp., the resulting soln. decompd. with ice and worked up, and the crude product (contg. .apprx.1% XXIII) chromatographed on Al2O3 and eluted with petr. ether and C6H6 gave .apprx.70% X, m. 112.degree.. From XI was prepd., after chromatography on Al2O3, 58% 3.beta.-methoxy-19-nor-5.beta.-methylcholest-9-en-6-one (XXV), m. 64.5-6.0.degree.. XI (607 mg.) in 6 cc. C5H5N treated with a suspension of 615 mg. CrO3 in 6 cc. C5H5N, the mixt. let stand overnight at room temp., ground with H2O, and extd. 3 times with EtOAc (after the 1st extn., the aq. phase was weakly acidified with 2N H2SO4), the combined exts. filtered through Hyflo-Supercel and worked up, and the crude product (600 mg.) chromatographed on Al2O3 and eluted with 1: 1 petr. ether-C6H6 gave 524 mg. XXV; the remainder consisted of more polar decompn. products. Crude XI (obtained by alk. sapon. of XII) in 60 cc. HCONMe2 treated with 5 g. CrO3 and 0.2 cc. concd. H2SO4 and after 2 min. to thick suspension dild. with 40 cc. HCONMe2, let stand 20 hrs. at room temp., and worked up with Et2O gave 4.23 g. XXV, oil which crystd. after seeding. A suspension of 1 g. NaOMe in 30 cc. abs. C6H6 and 4.5 cc. dry (over K2CO3) HCO2Et stirred (vibromixer) under N, after 1 hr. 523 mg. XXV in 20 cc. abs. C6H6 added dropwise, the mixt. stirred 48 hrs. at room temp., poured into aq. NaCl, and just acidified with 2N H2SO4, the C6H6 layer sepd., the aq. phase extd. repeatedly with C6H6, the combined C6H6 solns. washed with N KOH (23 mg. acidic fraction removed) and concd., and the residual oil (491 mg.) crystd. from Me2CO-H2O gave XXVI, m. 100-100.5.degree. (iso-PrOH, H2O), [.alpha.]24D 138 .+-. 2.degree. (c 1). XXVII (CA 59, 2889b (1.27 g.) in 70 cc. tert-BuOH and 12 cc. H2O let stand 30 hrs. at 18.degree. with 578 mg. AcNHBr, decompd. with aq. NaCl, and worked up gave 1.07 g. XXVIII, m. 193-7.5.degree. (MeOH or Me2-CO-H2O), [.alpha.]21D -28 .+-. 2.degree. (c 1). Oxidn. of XXVII with CrO3 in AcOH or C5H5N and with AcNHBr in MeOH-H2O or Ac-NH2-H2O gave poorer yields of XXVIII. XXVIII (470 mg.) in 10 cc. Ac2O heated 30 min. at 100.degree. with 123 mg. KHSO4, decompd. aq. NaCl, and worked up and the crude product (446 mg.) crystd. from Me2CO-H2O and chromatographed on Al2O3 with petr. ether and C6H6 gave 3.beta.-methoxy-9.alpha.,10.alpha.-oxido-19-nor-5.beta.-methylcholestan-6-one, m. 92-3.5.degree. (MeOH), [.alpha.]22D -9 .+-. 2.degree. (c 1). 3.beta.-Acetoxy-6.beta.-methyl-5.alpha.-cholestan-5-ol (XXIX) in 30 cc. Ac2O heated 20 min. at 75.degree. with a small amt. KHSO4 and worked up gave after crystn. from MeOH 201 mg. 3.beta.-acetoxy-6-methylcholest-5-ene (XXX), m. 116.degree.; from the mother liquor was isolated after preparative TLC on silica gel an addnl. 81 mg. XXX, m. 115.degree.. XXIX (100 mg.) in 30 cc. C5H5N treated with 5 drops 1:1 SOCl2-C5H5N at

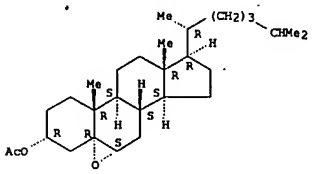
L16 ANSWER 34 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)
0.degree. kept 15 min. at room temp., decompd. with H2O, and worked up gave 80 mg. oil, consisting (N.M.R.) of .apprx.65:35 XXX-4-ene isomer (XXXI), which triturated with MeOH gave cryst. XXX; XXXI could not be isolated in pure state from the MeOH mother liquors. 3.beta.,6.alpha.-Diacetoxy-5.alpha.-cholestan-5-ol (XXXII) (500 mg.) dissolved in 50 cc. Ac2O by heating, a catalytic amt. KHSO4 added, the soln. heated 20 min. at 75.degree., decompd. with H2O, and worked up, and the crude product chromatographed on silica gel with C6H6 gave 4 fractions; the nonpolar middle fraction crystd. from EtOH gave 452 mg. 3.beta.,6.alpha.-diacetoxycholest-4-ene, m. 162-3.degree., [.alpha.]20D 26.5 .+-. 1.0.degree. (c 1); the more polar middle fraction (27 mg. oil) was the triacetate XXXIII, [.alpha.]20D 15.4 .+-. 1.0 .degree. (c 1), also prepd. from XXXII with Ac2O-4-MeC6H4SO3H. Pertinent uv, ir, and N.M.R. data were given.

IT **2953-35-7**, 5.alpha.-Cholestan-3.alpha.-ol, 5,6.alpha.-epoxy-, acetate **2953-38-0**, 5.alpha.-Cholestan-3.alpha.-ol, 5,6.alpha.-epoxy-
(prepn. of)

RN 2953-35-7 CAPLUS

CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

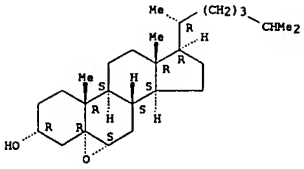


RN 2953-38-0 CAPLUS

CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L16 ANSWER 34 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 35 OF 45 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1964:432684 CAPLUS
DOCUMENT NUMBER: 61:32684
ORIGINAL REFERENCE NO.: 61:5715h,5716a-b
TITLE: Synthesis of 3.alpha.-chloro-5.alpha.,6.alpha.-epoxycholestane
AUTHOR(S): Shiota, Michio; Toyota, Taeko
CORPORATE SOURCE: Univ. Ochanomizu, Tokyo
SOURCE: Bull. Chem. Soc. Japan (1964), 37(6), 891-2
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

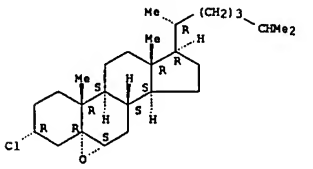
AB cf. CA 55, 14511i. 6.beta.-Chlorocholestane-3.beta.,5.alpha.-diol (1 g.) in 25 ml. C5H5N, treated with 10 ml. freshly distd. POCl3, gave 180 mg. 3.alpha.,6.beta.-dichlorocholestan-5.alpha.-ol (I), m. 118-19.5.degree. (Me2CO), [.alpha.]D 0.degree. (c 2.23, CHCl3). I could not be acetylated with Ac2O and C5H5N. I (130 mg.) refluxed 30 min. with 0.4 ml. 15% aq. NaOH in 9 ml. EtOH gave 72 mg. the title compd. (II), m. 160-2.degree., [.alpha.]D -37.7.degree. (c 3.18, CHCl3). II with LiAlH4 in boiling Et2O gave almost quant. 3.alpha.-chlorocholestan-5.alpha.-ol, m. 118-20.degree.. II (50 mg.) in 5 ml. dry C6H6 treated with 4 drops freshly distd. BF3 etherate, gave, after heating with HCl in EtOH, 50% 3.alpha.-chloro-5.alpha.-cholestan-6-one. II (60 mg.) treated with 0.1 ml. 5% phosphomolybdic acid in 4 ml. Me2CO gave 20 mg. 3.alpha.-chlorocholestane-5.alpha.,6.beta.-diol, m. 130-4.degree. (MeOH); 6-acetate (III), m. 129-30.degree.. 6.beta.-Acetoxycholestane-3.beta.,5.alpha.-diol (1 g.) treated with 10 ml. POCl3 in 25 ml. C5H5N gave 650 mg. III, m. 129-30.degree. (Me2CO-MeOH),[.alpha.]D -34.9.degree. (c 1.65, CHCl3). II with HCl gave I. 3.beta.,6.beta.-Dichlorocholestan-5.alpha.-ol, m. 149-50.degree., was obtained from 3.beta.-chloro-5.alpha.,6.alpha.-epoxycholestane.

IT **13095-33-5**, 5.alpha.-Cholestane, 3.alpha.-chloro-5,6.alpha.-epoxy-
(prepn. of)

RN 13095-33-5 CAPLUS

CN 5.alpha.-Cholestane, 3.alpha.-chloro-5,6.alpha.-epoxy- (7CI, 8CI) (CA INDEX NAME)

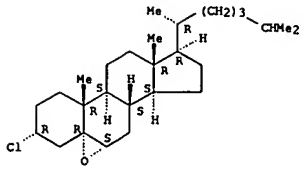
Absolute stereochemistry.



L16 ANSWER 36 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1964:432683 CAPLUS
DOCUMENT NUMBER: 61:32683
ORIGINAL REFERENCE NO.: 61:5715e-h
TITLE: Protection of the 4,5-epoxy-3-oxo moiety in steroids
AUTHOR(S): Collins, D. J.; Hobbs, J. J.
CORPORATE SOURCE: Univ. Sydney
SOURCE: Chem. Ind. (London) (1964), (25), 1063-4
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The ketals of 4,5-epoxy-3-oxo steroids were relatively stable to LiAlH4, and hence their use as protective groups. Treatment of 4.beta.,5-epoxy-5.beta.-cholestan-3-one (I) with BF3-Et2O in Et2O contg. MeOH at room temp. for 6 hrs. gave the 3-ketal (II), m. 111-12.5.degree., [.alpha.]D 4.7.degree.. Similarly, 4.alpha.,5-epoxy-5.alpha.-cholestan-3-one (III) gave its 3-ketal (IV), m. 112 13.5.degree., [.alpha.]D 80.5.degree.. This ketal formation also occurred readily with p-MeC6H4SO3H. The corresponding 3-Et ketals (4.beta.,5.beta.,V) m. 72-4.degree., [.alpha.]D 9.0 and (4.alpha.,5.alpha.,VI), an oil, were similarly prepd. Hydrolysis of III and V and of IV and VI with dil. HCl in aq. dioxane at room temp. gave I and II, resp. Treatment of V with BF3-Et2O in refluxing EtOH gave 3-ethoxy-5.alpha.-cholest-2-en-4-one, m. 130-1.5.degree., [.alpha.]D 49.4.degree.. II did not undergo any redn. with LiAlH4 in refluxing Et2O for 20 hrs. Even in refluxing tetrahydrofuran (THF) for 52 hrs., 38% was recovered along with 3,3-dimethoxy-5-hydroxy-5.alpha.-cholestane as a gum which on hydrolysis with dil. HCl in dioxane gave 5.beta.-cholestan-5-ol-3-one, m. 154-5.degree.. On the other hand the redn. of IV was complete in 21 hrs. in boiling THF, but only 50% complete after 20 hrs. in refluxing Et2O giving 3,3-dimethoxy-5.alpha.-cholestan-5-ol, m. 109-10.degree., [.alpha.]D 25.6.degree., which on acid hydrolysis yielded 5.alpha.-cholestan-5-ol-3-one, m. 210-13.degree.. For an example of protection, 4.beta.,5-epoxy-5.beta.-pregnane-3,20-dione gave 3,3-dimethoxy-4.beta.,5-epoxy-5.beta.-preg-nan-20-one, m. 123-4.degree., [.alpha.]D 63.5.degree., which on redn. with LiAlH4 under reflux for 3 hrs. gave 3,3-dimethoxy-4.beta.,5-epoxy-5.beta.-pregnan-20.beta.-ol, m. 157-60.degree., [.alpha.]D -15.6.degree.. The ultraviolet and infrared spectra of the compds. are given.
IT **13095-33-5**, 5.alpha.-Cholestane, 3.alpha.-chloro-5,6.alpha.-epoxy- (prepn. of)
RN 13095-33-5 CAPLUS
CN 5.alpha.-Cholestane, 3.alpha.-chloro-5,6.alpha.-epoxy- (7CI, 8CI) (CA INDEX NAME)

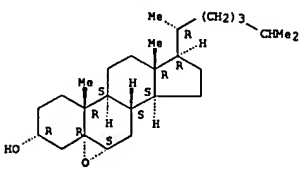
Absolute stereochemistry.

L16 ANSWER 36 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



L16 ANSWER 37 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1964:418461 CAPLUS
DOCUMENT NUMBER: 61:18461
ORIGINAL REFERENCE NO.: 61:3165c-f
TITLE: Steric orientation of epoxidation in the sterol series
AUTHOR(S): Mousseron, Max; Mousseron-Canet, Magdeleine; Guilleux, Jean Claude
CORPORATE SOURCE: Ecole Natl. Sup. Chim., Montpellier, Fr.
SOURCE: Compt. Rend. (1964), 258(15), 3861-4
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB An ether soln. of monoperoxyphthalic acid (1.1 millimoles) was added dropwise over 24 hrs. to epicholesterol (I) (1 millimole). An epoxidized alc. (5%), m. 160-2.degree., was isolated. The remainder of the product was the .alpha.-epoxide (II), C27H46O2, m. 124.degree., [.alpha.]25D -51.5.degree. (2.31% dioxane). LiAlH4 redn. converted II to the diaxial diol, C27H48O2, m. 200-1.degree., [.alpha.]30D 13.degree. (2.32% dioxane), showing a strong band at 3515 cm.-1 and a band at 3613 cm.-1 A proposed explanation was that the OH group was assocd. with the peracid in the transition complex. Epoxidn. of the acetate of I followed the opposite stereochem. course; redn. of the epoxidn. product led to a triol, m. 205-6.degree., [.alpha.]30D -4.degree. (3.5% dioxane). Androstenolone was converted to its 17-ketal (III), m. 170.degree., with HOCH2CH2OH, and III was treated with monoperoxyphthalic acid; its .alpha.-epoxide (IV), C21H32O4, m. 169.degree., [.alpha.]25D -88.degree. (3.5% dioxane), was isolated as the predominant product. LiAlH4 converted IV to the 3.beta.,5.alpha.-diol (V), C21H34O4, m. 228.degree., [.alpha.]25D -26.degree. (2.84% dioxane). Mesyl chloride in C5H5N selectively mesylated the 3.beta.-OH of V. This deriv., m. 153.degree. (decomp.), [.alpha.]20D 58.degree. (0.83% dioxane) reacetylated with AcCl in C5H5N to form the acetate, [.alpha.]20D -53.degree. (0.77% dioxane), of the epimer of III; the acetate was converted by LiAlH4 to the epimer (VI) of III. Epoxidn. of VI, m. 136-7.degree., [.alpha.]20D -78 .degree. (1.33% dioxane), gave rise to the .alpha.-epoxide (VII), m. 236.degree., [.alpha.]25D -100.degree. (1.08% dioxane). LiAlH4 converted VII to the 3.alpha.,5.alpha.-diol, m. 170.degree..
IT **2953-38-0**, 5.alpha.-Cholestan-3.alpha.-ol, 5,6.alpha.-epoxy- **24116-45-8**, 5.beta.-Cholestan-3.alpha.-ol, 5,6.beta.-epoxy-(?) (prepn. of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

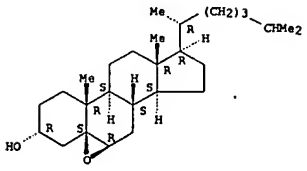
Absolute stereochemistry.



RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX

L16 ANSWER 37 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)
NAME)

Absolute stereochemistry.



L16 ANSWER 38 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1963:428713 CAPLUS
DOCUMENT NUMBER: 59:28713
ORIGINAL REFERENCE NO.: 59:5218f-h,5219a-g
TITLE: Chemistry of 3.alpha.-hydroxy-5-androsten-17-one
AUTHOR(S): Williams, Kenneth I. H.; Rosenfeld, Robert S.; Smutowitz, Mildred; Fukushima, David K.
CORPORATE SOURCE: Sloan-Kettering Inst. for Cancer Res., New York, NY
SOURCE: Steroids (1963), 1, 377-93
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

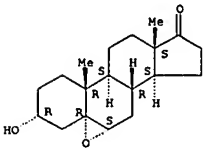
AB The title compd. (I) and isotopically labeled epimers of I-3-t were prepd. for study of the biol. conversion of 5-androstene-3,17-dione to I. A soln. of 5 g. 3.beta.-hydroxy-5-androsten-17-one ethylene ketal (II) (Fieser, CA 49, 6294c) in Et2O was cooled to 10.degree., treated with 150 ml. 0.28M monoperphthalic acid in Et2O, and allowed to stand overnight at 5.degree.; 200 ml. 10% NaOH soln. was added, the mixt. extd. with AcOEt, the ext. washed with H2O, 2 ml. C5H5N added, and the soln. dried, and evapd. to dryness to give 313 mg. 3.beta. -hydroxy-5,6.alpha.-oxidoandrostan-17-one ethylene ketal (III), m. 166-7.degree. (cyclohexane-C5H5N, then Me2CO-ligroine-C5H5N), [.alpha.] 20D -98.8.degree. (all rotations in CHCl3 unless stated otherwise). A mixt. of 159 mg. III, 10 ml. EtOH, 5 ml. H2O, and 5 drops concd. HCl was left 2.5 hrs. at room temp., neutralized with 5% aq. NaHCO3, and extd. with AcOEt to give 132 mg. cryst. material, which was chromatographed on acid-washed Al2O3. Elution with 1:9 AcOEt-C6H6 gave 83 mg. 3.beta. -hydroxy-5,6.alpha. -oxidoandrostan-17-one (IV), m. 227-9.degree. (cyclohexane-Me2CO), while elution with 1:9 EtOH-AcOEt gave 33 mg. 3.beta.5,6.beta.-trihydroxyandrostan-17one, m. 304-7.degree. (H2O-MeOH). A mixt. of 1.5 g. LiAlH4, 4.0 g. crude III, and 100 ml. abs. tetrahydrofuran (THF) was refluxed 0.5 hr. and treated carefully with AcOEt, then 10% aq. NaOH to give a white ppt. which was filtered off, combined with the residue from the evapd. filtrate, and extd. with AcOEt. The ext. was washed with H2O, dried, and evapd. to dryness to give 2.62 g. 3.beta.,5-dihydroxyandrostan-17-one ethylene ketal (V), m. 220-1.degree. (Me2CO), [.alpha.]27D -18.1.degree.. V (88 mg.) was converted as described for IV to 60 mg. 3.beta.,5-dihydroxyandrostan-17-one (VI), m. 277.5-8.0.degree. (MeOH), [.alpha.]22D +83.6.degree.. MeSO2Cl (1 ml.) was added to a cooled soln. of 1.12 g. V in 20 ml. C5H5N, the mixt. left 2 hrs. at room temp., stirred into ice-H2O, and extd. with AcOEt. The ext. was washed (cold 5% solns. of H2SO4 and NaOH; H2O), dried, evapd., and triturated with Et2O to give 1.28 g. 3.beta.-methylsulfonyloxy-5-hydroxyandrostan-17-one ethylene ketal (VII). A mixt. of 1.16 g. VII, 10 ml. CHCl3, 10 ml. AcCl, and 10 ml. PhNEt2 was refluxed 5 hrs., concd. in vacuo, and extd. with AcOEt and the ext. washed (cold 10% solns. of H2SO4 and NaOH; H2O), dried, and evapd. The residue in C6H6-petr. ether was filtered through Al2O3, evapd., dissolved in 20 ml. MeOH, mixed with 10 ml. 10% aq. KOH, and refluxed 15 min. MeOH was distd., the residue extd. with AcOEt, and worked up as before. The residue in 20 ml. EtOH, 10 ml. H2O, and 1 ml. concd. HCl was refluxed 15 min., extd. with AcOEt and the ext. evapd. and triturated with C6H6 to give 361 mg. I, m. 224-5.degree. (Me2CO), [.alpha.]22D -7.6.degree.. An addnl. 258 mg. I was obtained by chromatography of the evapd. C6H6 soln. and mother liquors. Treatment of 500 mg. I with monoperphthalic acid as described previously gave 548 mg. product, which was chromatographed on acid-washed Al2O3, elution of which with 3:97 AcOEt-C6H6 gave 293 mg. 3.alpha.hydroxy-5,6.alpha.-oxidoandrostan-17-one (VIII), m. 164.5-5.0.degree. (Me2CO-petr. ether), [.alpha.]28D -26.8.degree.; acetate m. 199.0-9.5.degree., [.alpha.]21D

L16 ANSWER 38 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)
+2.5.degree.. Elution with 5:95 AcOEt-C6H6 gave 25 mg. 3.alpha.hydroxy-5,6.alpha.-oxidoetiocholan-17-one, m. 201-3.degree. (MeOH), [.alpha.]22D + 46.5.degree.. VIII (19 mg.) in 20 ml. THF was reduced with 100 mg. LiAlH4; the product was chromatographed on acid washed Al2O3, elution of which with 1:99 EtOH-AcOEt gave 12 mg. 3.alpha.,5,17.beta.-androstanetriol, m. 194.5-6.0.degree. (Me2CO-petr. ether), [.alpha.]22D + 1.degree. (EtOH); 3,17-diacetate m. 198.5-9.0.degree., [.alpha.]25D + 1.2.degree.. A mixt. of 20 mg. VI, 20 ml. Me2CO, and 0.025 ml. H2CrO4 soln. (prepd. by dissolving 26.72 g. CrO3 in 23 ml. concd. H2SO4 and dilg. to 100 ml. with H2O) was left 10 min. at room temp., poured into H2O, extd. with AcOEt, and worked up as usual to give 15 mg. 5-hydroxyandrostane-3,17-dione, m. 213-14.5.degree. (Me2CO-petr. ether). Similarly, 1.5 g. II, 200 ml. Me2CO, and 1.2 ml. 7.64N CrO3-H2SO4 soln. was left 4 min. at 15.degree. under N, poured into ice, extd. with AcOEt, and worked up to give 1.1 g. crude product, a portion of which was recrystd. from EtOH to give 5-androstene-3,17-dione 17-ethylene ketal (IX), m. 141-6.degree., [.alpha.]26D -44.1.degree. IX (1 g.) in 25 ml. Et2O was added during 30 min. to a stirred soln. of 125 mg. LiAlT4 (25 mc.), the mixt. stirred 30 min., and worked up as for a normal redn. The product was refluxed 3 hrs. with 100 ml. EtOH contg. 10 drops concd. HCl, the soln. dild. with H2O, extd. with Et2O, and worked up. The residue was chromatographed on acid-washed Al2O3, elution of which with Et2O-C6H6 gave 2 fractions of 3.beta.-hydroxy-5-androsten-17-one-3.alpha.-t (X) with sp. activities of 8.65 .times. 10^8 and 4.76 .times. 10^8 counts/min. Paper-chromatography of samples of these fractions mixed with carrier X showed the 2nd to be radiochem. pure X. A sample of this fraction mixed with nonisotopic X, was converted by Ac2O-C5H5N to the acetate, m. 168.degree. (MeOH). Another dild. sample was treated 10 hrs. with (tert-BuO)3Al in Me2 CO-C6H6, and chromatographed on Al2O3 to give 4-androstene-3,17-dione, m. 169-70.degree. (Me2CO-petr. ether). The sequence of reactions leading from II to I was performed on 50 mg. X (238 .times. 10^6 counts/min.) without purification of intermediates. The crude I-3.beta.-t was chromatographed on 8 g. acid-washed Al2O3 to give approx. 2 mg. cryst. material, which was streaked on two 18 .times. 118 cm. strips of Whatman no. 1 paper and chromatographed 30 hrs. in 5:4:1 isooctane-MeOH-H2O. Radioactivity was located by a Vanguard Automatic Chromatogram Scanner and was extd. with MeOH, the ext. evapd. to dryness, and the residue dissolved in 50 ml. hot C6H6. The sp. activity of this soln. was 9.1 .times. 10^6 counts/min. The purity of the sample was established by mixing an aliquot with inactive I and recrystg., and by converting part of the evapd. filtrate to the acetate; these expts. indicated 96% purity. Ultraviolet and infrared max. are recorded.

IT 38522-36-0, 5.alpha.-Androstan-17-one, 5,6.alpha.-epoxy-3.alpha.-hydroxy-
(prepn. of)
RN 38522-36-0 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L16 ANSWER 38 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

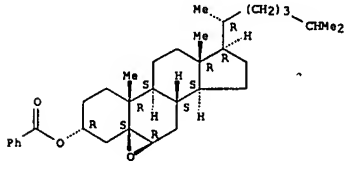


L16 ANSWER 39 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1962:38678 CAPLUS
DOCUMENT NUMBER: 56:38678
ORIGINAL REFERENCE NO.: 56:7389b-d
TITLE: The addition of hypochlorous acid to epicholesterol derivatives
AUTHOR(S): Mukawa, Fumikazu
CORPORATE SOURCE: Tsurumi Research Lab. Chem.
SOURCE: Nippon Kagaku Zasshi (1960), 81, 1348-9
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB 3.alpha.-Benzoyloxycholest-5-ene (I) (0.5 g.) boiled with 0.2 g. isocyanuric chloride in Me2CO contg. AcOH gave 0.2 g. C34H51O3Cl (II), m. 87.degree., [.alpha.]18D -38.3.degree. (c 0.9, CHCl3), converted to I by boiling with Zn dust in EtOH. II refluxed with 0.1 g. KOH in EtOH gave 80 mg. 5,6-oxido-5.beta.-cholestan-3.alpha.-ol. II was confirmed to be 3.alpha.-benzoyloxy-5-chloro-5.alpha.-cholestan-6.beta.-ol by infrared spectrum and its anti-Markovnikov type addn. of HClO in .DELTA.5-steroids, where the C-3 substituent had the .alpha.-configuration, was illustrated. II (200 mg.) chromatographed on Al2O3 in 1:1 petr. ether-C6H6 gave 120 mg. 3.alpha.benzoyloxy-5,6.beta.-oxido-5.beta.-cholestane (III) by elution with 9:1 benzene-MeOH. 3.beta.-Acetoxy-5-chloro-5.alpha.-cholestan6.beta.-ol and 6.beta.-chloro-5.alpha.-cholestane-3.beta.,5-diol chromatographed similarly gave 3.beta.-acetoxy-5,6.beta.-oxido-5.beta.-cholestane and 5,6.alpha.-oxide-5.alpha.-cholestan-3.beta.-ol, resp. II kept with BzCl in pyridine gave III, m. 132.degree., [.alpha.]18D -1.degree. (c 0.8, CHCl3).

IT 107419-88-5, 5.beta.-Cholestan-3.alpha.-ol, 5,6.beta.-epoxy-(?), benzoate
(prepn. of)
RN 107419-88-5 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, benzoate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



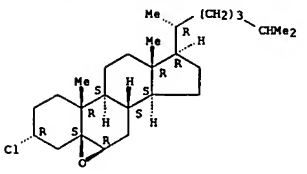
L16 ANSWER 40 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1961:76302 CAPLUS
DOCUMENT NUMBER: 55:76302
ORIGINAL REFERENCE NO.: 55:14511i,14512a-e
TITLE: The formation and the reactions of 3.alpha.-chloro-5,6.beta.-epoxy-5.beta.-cholestane
AUTHOR(S): Shiota, Michio; Ogihara, Taeko; Watanabe, Yumi
CORPORATE SOURCE: Ochanomizu Univ., Tokyo
SOURCE: Bull. Chem. Soc. Japan (1961), 34, 40-2
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A mixt. of 3.alpha.-chlorocholest-5-ene (200 mg.) and 2 equivs. of monoperphthalic acid in 10 ml. Et2O was kept at room temp. overnight. When the material (120 mg.) obtained by the usual work up was filtered through alumina and recrystd. from MeOH, a product (I), C27H46ClO, m. 101.5-103.degree., [.alpha.]16D -7.degree. (c 2.65, CHCl3), was isolated. I could not be reduced by LiAlH4 but hydrogenation of 150 mg. I in the presence of 20 mg. PtO2 in 10 ml. AcOH at room temp. was complete in 1.5 hrs. (2 moles H consumed). The usual work up produced an oil which was acetylated and chromatographed on 4.5 g. alumina. Elution with petr. ether afforded oily residues which, recrystd. from MeOH, yielded 3 mg. 5.beta.-cholestane (II), m. 63-5.degree., and 20 mg. 5.beta.-cholestan-6.beta.-ol acetate (III), m. 108-8.5.degree.; further elution with 1:9 C6H6-petr. ether afforded a small amount of halogen-contg. substance, m. 117-24.degree., which was not investigated further. When 150 mg. I in 4.3 g. EtNH2 was treated with 100 mg. Li at room temp., the product (IV) (137 mg.) isolated by the method of Benkeser, et al. (CA 50, 4092e), gave a yellow color with C(NO2)4 and a neg. Beilstein test. IV (81 mg.) was acetylated and then treated with monoperphthalic acid. The resulting epoxide was hydrolyzed with phosphomolybdic acid and the oily product (75.4 mg.) [no color with C(NO2)4] chromatographed on 2.1 g. alumina. Elution with petr. ether afforded 43.9 mg. oily residue which, on recrystn. from MeOH, yielded 34 mg. 5.alpha.-cholestan-6.beta.-ol acetate (V), m. 74-5.degree.. By catalytic hydrogenation of IV it was estd. that 30% of the material was unsatd. Since II, III, and V were isolated in the above reactions but no 5.alpha.-cholestan-5-ol was found, it was deduced that I was 3.alpha.-chloro-5,6.beta.-epoxy-5.beta.-cholestane and no .alpha.-oxide had been produced by the peracid oxidn. BF3-Et2O (4 drops) was added to 200 mg. I in 20 ml. C6H6 and after 4 min. the soln. was treated with aq. NaHCO3. The usual work-up afforded 200 mg. residue which, on chromatography, yielded 26.9 mg. "non-polar" oil (VI) 69 mg. 3.alpha.-chloro-5.alpha.-cholestan-6-one (VII), and 73.2 mg. oil (VIII). Since VIII gave a yellow color with C(NO2)4 and a pos. Beilstein test, showed OH infrared absorption, and could be acetylated, it was probably mainly 3.alpha.-chloro-cholest-4-en-6.beta.-ol. Since 5.beta.-cholestane-3,6-dione was not converted to its 5.alpha.-epimer under the conditions described, VII was formed directly from I; this confirmed the configuration of the epoxide in I. The results were compared with those of Henbest and Wrigley (CA 52, 10132d).

IT 115728-82-0, 5.beta.-Cholestane, 3.alpha.-chloro-5,6.beta.-epoxy- (prepn. of)
RN 115728-82-0 CAPLUS
CN 5.beta.-Cholestane, 3.alpha.-chloro-5,6.beta.-epoxy- (6CI) (CA INDEX NAME)

Absolute stereochemistry.

L16 ANSWER 40 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



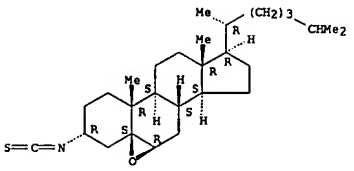
L16 ANSWER 41 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1961:70796 CAPLUS
DOCUMENT NUMBER: 55:70796
ORIGINAL REFERENCE NO.: 55:13475g-i,13476a-c
TITLE: Preparation of sterol thiols. V. 3.alpha.-Thiocyano-5,6.alpha.-epoxycholestane and 3.alpha.-thiocyano-5,-6.beta.-epoxycholestane
AUTHOR(S): Bourdon, R.; Ranisteano, S.
CORPORATE SOURCE: Ecole med. pharm., Calvados
SOURCE: Bull. soc. chim. France (1960) 1982-6
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB 3.alpha.-Thiocyano-5,6.alpha.-epoxycholestane (I) and 3.alpha.-thiocyano-5,6.beta.-epoxycholestane (I) were obtained by treating 3.beta.-tosyloxy-5,6.alpha.-epoxycholestane (II) and 3.beta.-tosyloxy-5,6.beta.-epoxycholestane (IV) with KCNS, resp. Because of the steric hindrance, the reaction of III with KCNS proved to be very slow. 3.beta.-Tosyloxy-5-cholestene (V) was prepd. according to Freudenberg and Hess (CA 20, 2815). V (40 g.) in an ethereal soln. of 0.12 mole perbenzoic acid (Bohme, Org. Synthesis Collective vol. III, 619(1955)) was refluxed 6 hrs., the soln. chilled to -25.degree., the ppt. filtered off, washed with boiling H2O and crystd. from MeOH to give III, m. 124.degree., [.alpha.]20J -46.degree.. III (0.2 g.) and 0.1 g. KCNS in 4 ml. MeCOEt was heated 80 hrs. in a sealed tube at 90.degree., the solvent removed, the residue washed with H2O, dissolved in hot EtOH, 3 vol. MeOH added, and cooled to 0.degree. to give I, m. 140.degree., [.alpha.]20J -146.degree.. II was prepd. through the intermediates V, 3.beta.-tosyloxy-5.alpha.-chloro-6.beta.-hydroxycholestane (VI), and IV. To 10 g. V in 120 ml. Et2O was added 19 g. CaClO2, 600 ml. H2O, and 10 ml. AcOH. The mixt. was heated 20 min. at 35.degree. and kept 40 min. at room temp., the Et2O layer sepd., the solvent removed in vacuo, the residue washed with cold MeOH, dissolved in hot AcOEt and 5 vol. MeOH added to give VI, m. 175-7.degree., [.alpha.]20J -31.5.degree.. VI (1 g.) and 0.5 g. Na2CO3 in 200 ml. MeOH was refluxed 2 hrs., the mixt. filtered, pptd. with H2O, and the ppt. chromatographed on Al2O3 to give IV, m. 110.degree., [.alpha.]20J 12.degree.. IV treated with KCNS 6 hrs. at 90.degree. as above and the mixt. chromatographed on Al2O3 yielded 7% 3.alpha.-isothiocyano-5,6.beta.-epoxycholestane, m. 104.degree., [.alpha.]D -26.5.degree., 25% II, m. 190.degree., [.alpha.]D 2.degree., and a resinous fraction. The structure of III was established by infrared analysis and the following reactions. III (3 g.) and 3 ml. BF3AcOH (36% BF3) in 50 ml. C6H6 was shaken 5 min. at room temp., washed with H2O and the solvent removed to give 3.beta.-tosyloxy-6.beta.-acetoxy-5.alpha.-hydroxycholestane, m. 152.degree., [.alpha.]20J -47.degree., partially sapond. with MeOH-KOH to give 3.beta.-tosyloxy-5.alpha.,6.beta.-dihydroxycholestane (VII), m. 166.degree. (decompn.), [.alpha.]D -27.degree.. VII was also prepd. through the following steps: oxidn. of 3.beta.-benzoxy-5-cholestene with BzOOH to 3.beta.-benzoxy-5,6.alpha.-epoxycholestane, m. 166.degree., [.alpha.]20J -28.degree.; hydrolysis of this 5,6'-epoxy deriv. with BF3AcOH to 3.beta.-benzoxy-6.beta.-acetoxy-5.alpha.-hydroxycholestane, m. 162.degree., [.alpha.]D -24.degree., LiAlH4-redn. to 3.beta.,5.alpha.,6.beta.-trihydroxycholestane, m. 238.degree., [.alpha.]D 3.degree., which was tosylated to VII. III was also obtained by treatment of VII with Me2SO2Cl in C5H5N. I was treated with LiAlH4 and (AcO)2 to yield 3.alpha.-acetylthio-5.alpha.-hydroxycholestane, which treated with SOCl2 gave 3.alpha.-acetylthio-4-cholestene (see preceding abstr.).

IT 122241-79-6, Isothiocyanic acid, 5,6.beta.-epoxy-5.beta.-cholestan-3.alpha.-yl ester (prepn. of)
RN 122241-79-6 CAPLUS
CN Isothiocyanic acid, 5,6.beta.-epoxy-5.beta.-cholestan-3.alpha.-yl ester (6CI) (CA INDEX NAME)

L16 ANSWER 41 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)

Absolute stereochemistry.

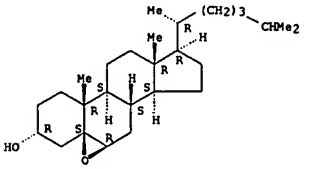


L16 ANSWER 42 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1959:100035 CAPLUS
DOCUMENT NUMBER: 53:100035
ORIGINAL REFERENCE NO.: 53:18099i,18100a-h
TITLE: Catalytic reduction of epicholesterol .beta.-oxide
AUTHOR(S): Urushibara, Yoshiyuki; Mori, Kazuko
CORPORATE SOURCE: Univ. Tokyo
SOURCE: Bull. Chem. Soc. Japan (1958), 31, 1068-71
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Catalytic reduction of epicholesterol .beta.-oxide (I) yields coprostane (II), 6.beta.-coprostanol (III), and 3.alpha.,6.beta.-coprostanediol (IV). A suspension of 180 mg. I in 18 cc. AcOH with H over 36 mg. Adams PtO2 at ordinary temp. and pressure (the reaction was complete in 1 hr., 1.5 moles H being absorbed), the evapd. in vacuo and the residual mixt. filtered gave 178 mg. oily substance. Treatment of the oil with Ac2O and pyridine yielded 183 mg. oily substance, which was chromatographed on a column of 9 g. Al2O3 and eluted with 40 cc. petr. ether gave 13.5 mg. oily material crystd. by soln. in MeOH and cooling; recrystn. from acetone gave II, needles, m. and mixed m.p. 67-70.degree.. Elution with 60 cc. petr. ether-C6H6 (9:1) gave 27 mg. of another material yielding on recryst. from MeOH 24 mg. 6.beta.-coprostanol acetate (V), m. 108-9.degree.. V in 1 cc. anhyd. ether dropped into 10 mg. LiAlH4 in 1 cc. ether and the mixt. refluxed 1 hr., washed, and dried and evapd. gave 19.5 mg. oily substance. III did not crystallize even from cold MeOH; treated in 0.2 cc. AcOH with 12.5 mg. Cr2O3 in 0.5 cc. 90% AcOH, held overnight, and water added gave 15 mg. 6-coprostanone (VI), m. 125-31.degree.; recrystn. from MeOH gave 12 mg. m. 128-29.5.degree.. VI (8 mg.) in 1 cc. AcOH and 1 drop concd. HCl refluxed 30 min. gave 7 mg. 6-cholestanone (5 mg. after recrystn. from MeOH), m. and mixed p.m. 85.degree.. V gave no depression of the m.p. with V prepd. by catalytic reduction of 4-cholesten-6.beta.-ol acetate. Elution with 60 cc. C6H6Et2O (19:1) and 40 cc. (9:1) gave 21.5 mg. material which crystd. from cold MeOH; repeated recrystn. from MeOH gave 6.5 mg. 3.alpha.,6.beta.-coprostanediol diacetate (VII), needles, m. 103-6.5.degree., no depression of m.p. when with VII prepd. by catalytic reduction of 4-cholestene-3.alpha.,6.beta.-diol diacetate (VIII). VII treated with LiAlH4 gave IV, a glassy mass, m. 134-6.degree., which with Cr2O3 in AcOH yielded 3,6-coprostanedione (IX), needles, m. 174-5.5.degree., no depression of m.p. with IX prepd. by oxidation of 3.beta.,6.beta.-coprostanediol. A suspension of 1 g. epicholesterol in 10 cc. HCO2H heated 5 min. to 70-80.degree. with stirring formed epicholesterol 3-formate (X) which sepd. as an oil and was cooled to 25.degree., the solidified X shaken occasionally with 1 cc. 30% H2O2 at 40.degree. dissolved in 30 min., the soln. held overnight at room temp., treated with 15 cc. boiling water, allowed to cool, the white granular material collected, dissolved in MeOH 30 cc., treated with 1 cc. 25% aq. NaOH, warmed on a water bath 10 min., acidified with HCl, dild. with water, and extd. with ether gave 3.alpha.,5,6.beta.-cholestanetriol (XI), a glassy mass. XI with 7 cc. Ac2O and 10 cc. pyridine gave 1.2 g. oil, which, chromatographed on 30 g. Al2O3 and eluted with 2100 cc. pert. ether-C6H6 (9:1), and 2300 cc. (4:1) gave 450 mg. 3.alpha.,5,6.beta.-cholestanetriol 3,6-diacetate (XII), recrystd. from MeOH to give 270 mg. m. 86-7.degree.. Elution with 300 cc. petr. ether-C6H6, 400 cc. C6H6, 100 cc. C6H6-Et2O (99:1), 100 cc. (98:2), and 100 cc. (95:5) gave 190 mg. of material with no sharp m.p., assumed to be a mixt. of XII and 3.alpha.,5,6.beta.-cholestanetriol 6-acetate (XIII) because acetylation gave only XII. Elution with 200 cc. (C6H6-Et2O (9:1), 200 cc. (4:1), 100 cc. (1:1), and 600 cc. ether gave 165 mg. XIII, recrystd. from MeOH to give 125 mg. XIII, m. 177-8.degree.. XIII was oxidized to 5,6.beta.-dihydroxy-3-cholestanone 6-acetate (XIV), m. 159-60.degree. no depression of m.p. with XIV prepd. by oxidation of 3.beta.,5,6.beta.-cholestanetriol 6-acetate. Elution with 600 cc. Et2O-Me2CO gave 170 mg. gel, assumed to be a mixt. of XIII and XI because on acetylation it gave only XII. XII (165 mg.) treated with 2 drops SOCl2 in 1 cc. pyridine at 0.degree., and the mixt. poured into ice water after 5 min. finally gave 130 mg. VIII, needles, m. 102.5-3.5.degree. (MeOH), [.alpha.]30D 117.degree. (c 2.20, CHCl3). PtO2 (10 mg.) in 50 cc. EtOH was satd. with H, 47 mg. VIII added, and the mixt. shaken with H at ordinary temp. and pressure; the reaction was complete in 20 min., 1 mole H2 being absorbed. Filtration and evapn. gave 46 mg. oil which was chromatographed on a column of 1.5 g. Al2O3 and eluted with 30 cc. petr. ether-C6H6 (4:1), 20 cc. (7:3) and 20 cc. (1:1), giving 23 mg. VII, 18 mg. when recrystd. from MeOH, m. 103-4.degree., [.alpha.]18D 56.degree. (c 1.85, CHCl3)].

IT 24116-45-8, 5.beta.-Cholestan-3.alpha.-ol, 5,6.beta.-epoxy- (catalytic redn. of)
RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

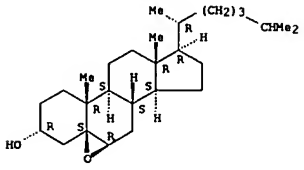


L16 ANSWER 43 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1957:99229 CAPLUS
DOCUMENT NUMBER: 51:99229
ORIGINAL REFERENCE NO.: 51:17970b-d
TITLE: Preparation and reductive cleavage of epicholesterol .beta.-oxide
AUTHOR(S): Shiota, Michio
CORPORATE SOURCE: Ochanomizu Women's Univ., Tokyo
SOURCE: Nippon Kagaku Zasshi (1955), 76, 1192-4
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Epicholesterol (I) (1.45 g.) in 40 cc. Et2O boiled gently 5 hrs. with 1.4 g. peroxyphthalic acid (II), and the product chromatographed through Al2O3 gave 254 mg. .alpha.-oxide (III), m. 122-3.degree., and 79 mg. .beta.-oxide (IV), m. 165-7.degree.. Similarly, I acetate treated with II and the product hydrolyzed and chromatographed gave 56 mg. III and 144 mg. IV. Reduction of 100 mg. IV with LiAlH4, acetylation, and chromatography yielded 24 mg. 3.alpha.,6.beta.-cholestanediol diacetate, m. 111-12.degree., and 6.6 mg. 3.alpha.,5-coprostanediol 3-acetate, m. 146.degree.. Reduction of 123 mg. IV with AmOH-Na at 150-60.degree. for 5 hrs., Et2O extn., acetylation, chromatography, and LiAlH4 reduction gave a small amt. of 3.beta.,6.alpha.-cholestanediol, m. 215-17.degree.. A suspension of 500 mg. I in 1.5 cc. AcOH and 0.5 cc. Ac2O treated with 6 drops pure HNO3, stirred 13 min., treated with 2.5 cc. HNO3 under NaCl-ice cooling, and the crystals recrystd. from MeOH gave 120 mg. 6-nitro-epicholesteryl nitrate (V), m. 134-5.degree.. LiAlH4 reduction of 88.5 mg. V and working up gave 74 mg. 3.alpha.,6.beta.-cholestanediol, m. 186-7.degree..

IT 24116-45-8, 5.beta.-Cholestan-3.alpha.-ol, 5,6.beta.-epoxy- (cleavage of)
RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

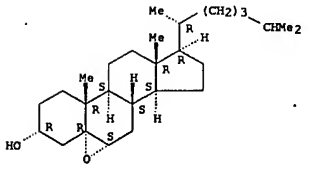
Absolute stereochemistry.



IT 2953-38-0, 5.alpha.-Cholestan-3.alpha.-ol, 5,6.alpha.-epoxy- (prepn. of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

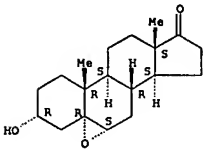
Absolute stereochemistry.

L16 ANSWER 43 OF 45 CAPLUS COPYRIGHT 2003 ACS (Continued)



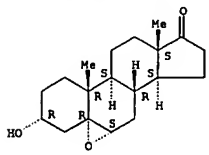
L16 ANSWER 44 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1957:52510 CAPLUS
DOCUMENT NUMBER: 51:52510
ORIGINAL REFERENCE NO.: 51:9775a-b
TITLE: Determination of phosphorus and phosphatase with N-phenyl-p-phenylenediamine
AUTHOR(S): Dryer, R. L.; Tammes, A. R.; Routh, Joseph I.
CORPORATE SOURCE: State Univ. of Iowa, Iowa City
SOURCE: J. Biol. Chem. (1957), 225, 177-83
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB A reagent for the reduction of phosphomolybdate is proposed, which is stable and fast and which contributes to the optical absorbance of the final soln. The max. absorbance is obtained in 10 min. or less after addn. of the reagent and is const. thereafter for at least 1.5 hrs. A useful absorbance max. is observed in the spectral range 340-85 m.mu.. Conditions for the use of the new reagent are defined for the detn. of lipoid P, serum inorg. P, and alk. phosphatase of the serum.
IT 38522-36-0, 5.alpha.-Androstan-17-one, 5,6.alpha.-epoxy-3.alpha.-hydroxy-
(detn. in urine)
RN 38522-36-0 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.alpha.,5.alpha.,6.alpha.)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 45 OF 45 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1957:52509 CAPLUS
DOCUMENT NUMBER: 51:52509
ORIGINAL REFERENCE NO.: 51:9774h-i,9775a
TITLE: A spectrophotometric method for the analysis of binary mixtures of urinary steroids
AUTHOR(S): Bitman, Joel; Rosselet, Jean Pierre; de M. Reddy, Alvira; Lieberman, Seymour
CORPORATE SOURCE: Columbia Univ.
SOURCE: J. Biol. Chem. (1957), 225, 39-52
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. C.A. 49, 2554g. As based upon the spectral differences which satd. and unsatd. urinary steroids show in H_2SO_4, a spectrophotometric method was developed for the analysis of binary mixts. of such steroids which permits detn. of the concn. of each steroid in the following chromatographically homogeneous pairs of steroids: isoandrosterone and dehydroisoandrosterone, androsterone and .DELTA.9-androstenolone, and etiocholanolone and .DELTA.9-etiocholenolone. When applied to chromatographic fractions from urinary exts., the method gave results which were in agreement with those obtained by a chem. procedure involving the isolation of the unsatd. components as their epoxides.
IT 38522-36-0, 5.alpha.-Androstan-17-one, 5,6.alpha.-epoxy-3.alpha.-hydroxy-
(detn. in urine)
RN 38522-36-0 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.alpha.,5.alpha.,6.alpha.)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d ibib ab hitstr 1-17

L19 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:389246 CAPLUS
DOCUMENT NUMBER: 133:4592
TITLE: Method of epoxidation reaction of olefins
INVENTOR(S): Tian, Weisheng; Yan, Zhaohua
PATENT ASSIGNEE(S): Shanghai Inst. of Organic Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1203915	A	19990106	CN 1998-110882	19980602

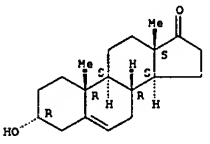
PRIORITY APPLN. INFO.: CN 1998-110882 19980602
OTHER SOURCE(S): CASREACT 133:4592

AB Olefins are epoxidized in H2O2-RfSO2F-base oxidn. system and in org. solvent at 0-30.degree.. The mole ratio of olefin-H2O2-RfSO2F-base is 1:2- 12:1-6:2-12, preferably 1:8:4:8. RfSO2F is selected from 2-tetrafluoroethoxytetrafluoroethanesulfonyl fluoride, 2-(2-iodotetrafluoroethoxy)tetrafluoroethanesulfonyl fluoride, 2-(2-chlorotetrafluoroethoxy)tetrafluoroethanesulfonyl fluoride, perfluorooctanesulfonyl fluoride, perfluorobutanesulfonyl fluoride, methoxycarbonyldifluoromethanesulfonyl fluoride, and 2-[2-tetrafluoroethoxy)tetrafluoroethanesulfonyl fluoride; the base from DBU, DBN, NaOEt, NEt3, NaNH2, pyridine, NaOH, KOH, LiOH, Na2CO3, K2CO3, NaOAc, NaHCO3, and KHCO3, etc; and the solvent from THF, EtOH, MeCN, MeOH, and acetone, preferably MeOH.

IT **2283-82-1 5223-99-4 19037-28-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(epoxidn. reaction of olefins)

RN 2283-82-1 CAPLUS
CN Androst-5-en-17-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

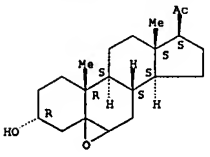
Absolute stereochemistry.



RN 5223-99-4 CAPLUS
CN Androst-5-en-17-one, 3-(acetyloxy)-, (3.alpha.)- (9CI) (CA INDEX NAME)

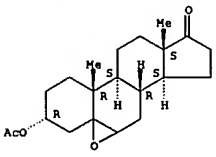
Absolute stereochemistry.

L19 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

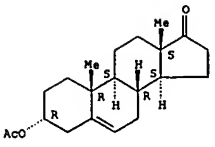


RN 270251-95-1 CAPLUS
CN Androstan-17-one, 3-(acetyloxy)-5,6-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

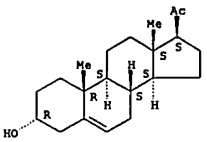


L19 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 19037-28-6 CAPLUS
CN Pregn-5-en-20-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

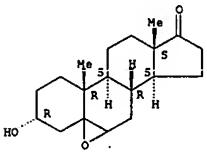
Absolute stereochemistry.



IT **270251-88-2P 270251-90-6P 270251-95-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(epoxidn. reaction of olefins)

RN 270251-88-2 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 270251-90-6 CAPLUS
CN Pregnan-20-one, 5,6-epoxy-3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

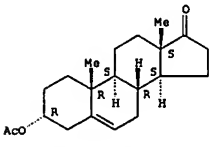
L19 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:600698 CAPLUS
DOCUMENT NUMBER: 129:316428
TITLE: A Highly .beta.-Stereoselective Catalytic Epoxidation of .DELTA.5-Unsaturated Steroids with a Novel Ruthenium(II) Complex under Aerobic Conditions
AUTHOR(S): Kesavan, Venkitasamy; Chandrasekaran, Srinivasan
CORPORATE SOURCE: Department of Organic Chemistry, Indian Institute of Science, Bangalore, 560 012, India
SOURCE: Journal of Organic Chemistry (1998), 63(20), 6999-7001
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:316428

AB Catalytic .beta.-stereoselective epoxidn. of .DELTA.5-unsatd. steroid derivs. has been effected by a novel ruthenium(II) bioxazoline complex under aerobic conditions. The reactions are regio- and stereoselective. The reaction conditions provide the corresponding 5.beta.,6.beta.-epoxides, e.g. I, with high degree of stereoselectivity (88-96%) in very good yields, while oxidn. of steroid derivs. with peracids leads to 5.alpha.,6.alpha.-epoxides as the major products. The overall conformation of the steroid nucleus is nearly planar in the cholesteryl ester, while it is bent at the junction between the rings A and B in the 5.beta.,6.beta.-epoxide. This change from pseudo-trans- to cis-stereochem. of the A-B ring junction provides more room for the catalyst to approach from the .beta.-face of the steroidal skeleton.

IT **5223-99-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(.beta.-stereoselective catalytic epoxidn. of .DELTA.5-unsatd. steroids with a novel ruthenium(II) complex under aerobic conditions)

RN 5223-99-4 CAPLUS
CN Androst-5-en-17-one, 3-(acetyloxy)-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

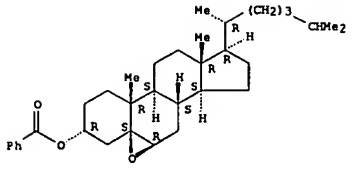


IT **107419-88-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(.beta.-stereoselective catalytic epoxidn. of .DELTA.5-unsatd. steroids with a novel ruthenium(II) complex under aerobic conditions)

RN 107419-88-5 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, benzoate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

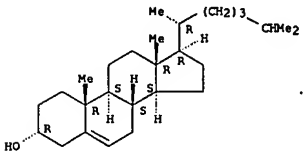
L19 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

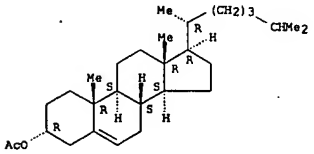
L19 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:681247 CAPLUS
DOCUMENT NUMBER: 127:346239
TITLE: Oxygen transfer reactions from an oxaziridinium tetrafluoroborate salt to olefins
AUTHOR(S): Lusinchi, Xavier; Hanquet, Gilles
CORPORATE SOURCE: Institut de Chimie des Substances Naturelles, CNRS, Gif sur Yvette, F 91180, Fr.
SOURCE: Tetrahedron (1997), 53(40), 13727-13738
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 127:346239
AB Oxaziridinium I efficiently epoxidizes olefins. It reacts as an electrophilic reagent and does not transfer its oxygen to deactivated double bonds or carbonyl functions. Epoxidn. of cyclic allylic acetates shows a remarkable diastereoselectivity leading to the syn isomer. We propose that the epoxidn. reaction proceeds through a one-step process.
IT 474-77-1 1059-85-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(epoxidn. of olefins by oxaziridinium tetrafluoroborate)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 1059-85-4 CAPLUS
CN Cholest-5-en-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

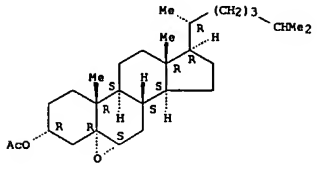
Absolute stereochemistry.



L19 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

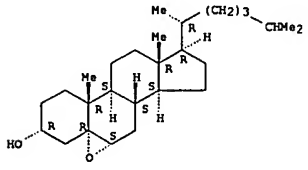
IT 2953-35-7P 2953-38-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(epoxidn. of olefins by oxaziridinium tetrafluoroborate)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



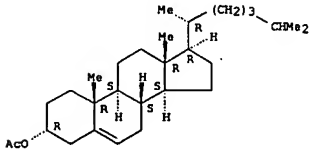
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:457769 CAPLUS
DOCUMENT NUMBER: 121:57769
TITLE: Photochemically induced mercuric oxide - iodine oxidation of some unsaturated steroid compounds
AUTHOR(S): Dabovic, Milan; Bjelakovic, Mira; Andrejevic, Vladimir; Lorenc, Ljubinka; Mihailovic, Mihailo L.
CORPORATE SOURCE: Fac. Chem., Univ. Belgrade, Belgrade, YU-11001, Yugoslavia
SOURCE: Tetrahedron (1994), 50(6), 1833-46
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:57769
AB Photochem. induced HgO/I2 oxidn. of cholest-5-en-3.alpha.-ol and cholest-5-en-3.beta.-ol afforded products I, II, 6.alpha.-III and 6.beta.-III, which arose from the corresponding alkoxy radicals, and epoxides 3.alpha.,5.alpha.,6.alpha.-IV, 3.beta.,5.alpha.,6.alpha.-IV, and 3.beta.,5.beta.,6.beta.-IV, which arose from attack of the I2O intermediate at the olefinic double bond. With cholest-5-ene-1.alpha.,3.beta.-diol 3-acetate and cholest-7-ene-3.beta.,5.alpha.-diol 3-acetate, the HgO/I2 oxidn. led to unresolvable complex mixts. With the same reagent, cholest-5-en-3.alpha.-ol acetate underwent exclusively attack by I2O to give epoxides, and iodohydrin, and rearranged products.
IT 1059-85-4, Cholest-5-en-3.alpha.-ol acetate
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. oxidn. of, with mercuric oxide and iodine)
RN 1059-85-4 CAPLUS
CN Cholest-5-en-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

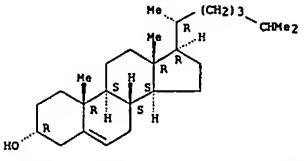
Absolute stereochemistry.



IT 474-77-1P, Cholest-5-en-3.alpha.-ol
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and photochem. oxidn. of, with mercuric oxide and iodine)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

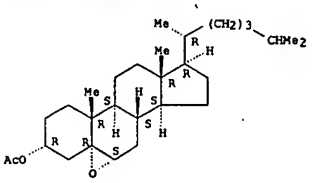
Absolute stereochemistry.

L19 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



IT 2953-35-7P 2953-38-0P 14456-17-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by photochem. oxidn. of cholestenols with mercuric oxide and iodine)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

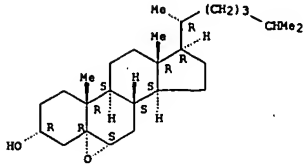
Absolute stereochemistry.



RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

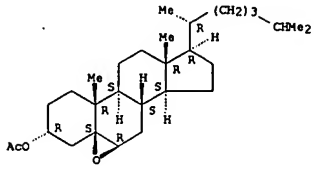
Absolute stereochemistry.

L19 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



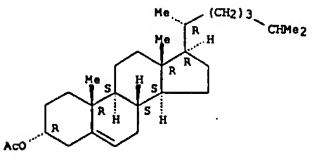
L19 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1993:428423 CAPLUS
DOCUMENT NUMBER: 119:28423
TITLE: Photochemically induced mercuric oxide-iodine oxidation of 3.alpha.- and 3.beta.-acetoxycholest-5-enes
AUTHOR(S): Mihailovic, Mihailo J. J.; Lorenc, Ljubinka; Bjelakovic, Mira; Dabovic, Milan; Andrejevic, Vladimir
CORPORATE SOURCE: Fac. Chem., Univ. Belgrade, Belgrade, YU-11001, Yugoslavia
SOURCE: Journal of the Serbian Chemical Society (1992), 57(12), 985-9
CODEN: JSCSEN; ISSN: 0352-5139
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 119:28423

AB When cholest-5-en-3.alpha.-ol acetate was subjected to photochem. induced HgO/I2 oxidn., it afforded 6.beta.-iodo-5.alpha.-hydroxycholestan-3-one acetate (16.1%), 5.alpha.,6.alpha.-epoxy- and 5.beta.,6.beta.-epoxycholestan-4.alpha.-ol acetate (total yield 8.6%, ratio .apprxeq. 9:1), 6.beta.-iodocholestane-3.alpha.,5.alpha.-diol 3-acetate (6.2%), and cholestane-3.alpha.,5.alpha.,6.alpha.-triol 6-acetate (20.1%), while the epimeric cholest-5-en-3.beta.-ol acetate, under similar exptl. conditions, underwent mainly non-stereospecific epoxidn. of the olefinic double bond, to produce a .apprxeq.1:1 mixt. of 5.alpha.,6.alpha.-epoxy- and 5.beta.,6.beta.-epoxycholestan-3.beta.-ol acetate (in over 67% yield).

IT 1059-85-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. oxidn. of, with mercuric oxide-iodine)
RN 1059-85-4 CAPLUS
CN Cholest-5-en-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

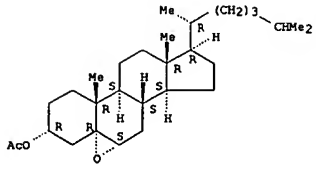
Absolute stereochemistry.



IT 2953-35-7P 14456-17-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

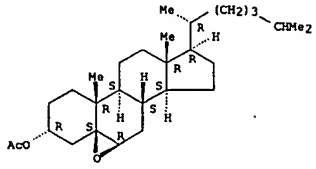
Absolute stereochemistry.

L19 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



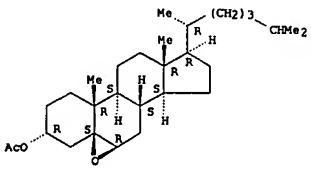
L19 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:612781 CAPLUS
DOCUMENT NUMBER: 117:212781
TITLE: Catalytic .beta.-stereospecific epoxidation of unsaturated steroids by trans-dioxoruthenium(VI)tetramesitylporphyrin. Stereochemical grounds for the .beta.-diastereofacial selection
AUTHOR(S): Tavares, Manuella; Ramasseul, Rene; Marchon, Jean Claude; Bachet, Bernard; Brassy, Claude; Mornon, Jean Paul
CORPORATE SOURCE: Lab. Chim. Coord., Cent. Etud. Nucl. Grenoble, Grenoble, 38041, Fr.
SOURCE: Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1992), (8), 1321-9
CODEN: JCPKBH; ISSN: 0300-9580
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 117:212781

AB The catalytic epoxidn. by dioxygen with trans-dioxoruthenium(VI)tetramesitylporphyrin (I) of the acetic esters of cholesterol, 3-epicholesterol and isocholesterol, as well as of the 7.alpha.-epimer of the latter, is .beta.-stereospecific. Substitution by a Me group on C-6 of pregnenolone acetate results in reduced reactivity towards catalytic epoxidn. and lower .beta.-stereoselectivity. 19-Norsterol esters bearing a double bond at C-8-C-14 or C-14-C-15, e.g., II and III are inert towards epoxidn. catalyzed by I. The variable reactivity of these sterol ester substrates is explained by a transition state in which the steroid nucleus approaches the ruthenium-oxo bond approx. perpendicular to the porphyrin ring. The .beta.-selectivity of .DELTA.5-sterol ester epoxidn. is accounted for in terms of this transition state geometry which provides a good fit between the porphyrin catalyst and the steroid substrate when the .beta.-side faces the oxo ligand. On the other hand, reaction on the .alpha.-side involves unfavorable steric interactions between axial hydrogen atoms on C-3 and C-7 of the substrate and the porphyrin ring and a mesityl substituent of the catalyst, resp. The crystal and mol. structures of cholesteryl Et carbonate and of its 5,6.beta.-epoxide have been detd. by single-crystal x-ray diffraction. The overall conformation of the steroid nucleus is nearly planar in the cholesteryl ester, while it is bent at the junction between rings A and B in the 5,6.beta.-epoxide. This change from pseudo-trans-to cis-stereochem. of the A-B ring junction upon epoxidn. is proposed to amplify the .beta.-diastereofacial selection. Variable temp. 1H NMR spectra indicate that in CD2Cl2 soln. the 5,6.beta.-epoxide (not the 5,6.alpha.-epoxide) of the cholesteryl acetate coordinates the ruthenium atom of I with a nearly perpendicular geometry. These results corroborate the orthogonal substrate approach and the steric origin of the .beta.-stereospecificity in I-catalyzed steroid epoxidns.

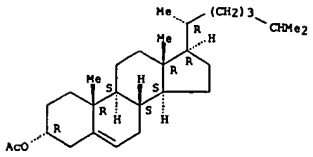
IT 1059-85-4P, Epicholesteryl acetate
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and stereospecific epoxidn. of, by dioxoruthenium tetramesitylporphyrin)
RN 1059-85-4 CAPLUS
CN Cholest-5-en-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L19 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

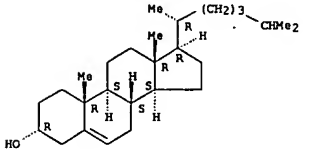


L19 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



IT 474-77-1P, 3-Epicholesterol
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and O-acetylation of)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 14456-17-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereospecific prepn. of)
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

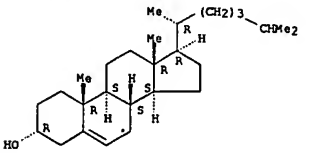
Absolute stereochemistry.

L19 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:174525 CAPLUS
DOCUMENT NUMBER: 116:174525
TITLE: Efficient epoxidation of cholesterol and cholesteryl acetate by dioxygen in the presence of isobutyraldehyde. Metalloporphyrin-enhanced .beta.-diastereofacial selectivity of epoxidation
AUTHOR(S): Ramasseul, Rene; Tavares, Manuella; Marchon, Jean Claude
CORPORATE SOURCE: Dep. Rech. Fondam. Matiere Condens., Cent. Etud. Nucl., Grenoble, 38041, Fr.
SOURCE: Journal of Chemical Research, Synopses (1992), (3), 104-5
CODEN: JRPSDC; ISSN: 0308-2342
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:174525

AB Cholesterol and cholesteryl acetate are efficiently epoxidized by air and isobutyraldehyde; the .beta.-stereoselectivity of cholesteryl acetate epoxidn. is enhanced to more than 80% in the presence of (5,10,15,20-tetraphenylporphyrinato)nickel(II).

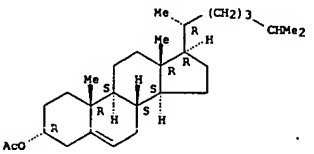
IT 474-77-1, Epicholesterol 1059-85-4, Epicholesteryl acetate
RL: RCT (Reactant); RACT (Reactant or reagent)
(epoxidn. of, by oxygen in presence of isobutyraldehyde and metalloporphyrin catalyst, enhanced diastereofacial selectivity of)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 1059-85-4 CAPLUS
CN Cholest-5-en-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

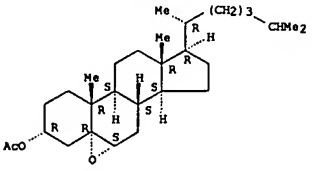
Absolute stereochemistry.



L19 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

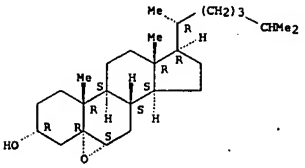
IT **2953-35-7P 2953-38-0P 14456-17-8P**
24116-45-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

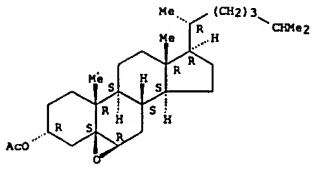
Absolute stereochemistry.



RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

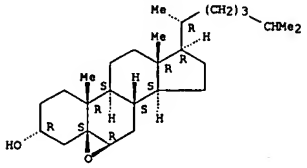
Absolute stereochemistry.

L19 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



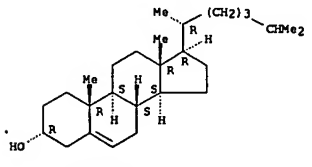
L19 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1983:595272 CAPLUS
DOCUMENT NUMBER: 99:195272
TITLE: 1,3-Acyl migration to an epoxide. Reversible rearrangement of 5,6.beta.-epoxyepicholesteryl acetate
AUTHOR(S): Holland, Herbert L.; Jahangir
CORPORATE SOURCE: Dep. Chem., Brock Univ., St. Catharines, ON, L2S 3A1, Can.
SOURCE: Journal of Organic Chemistry (1983), 48(18), 3134-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Treatment of epicholesteryl acetate (I) with 3-ClC6H4C(O)O2H in CH2Cl2 gave, in addn. to the anticipated 5,6-epoxides II and III, the cholestanetriol monoacetate IV. The latter is formed by reaction of III with H2O, and regenerates the epoxide on heating. A mechanism for this interconversion involves a 1,3-acyl migration.

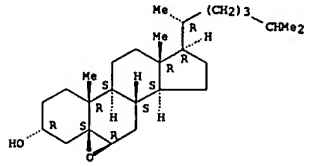
IT **474-77-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation of)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **24116-45-8P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in epoxidn. of epicholesterol acetate)
RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

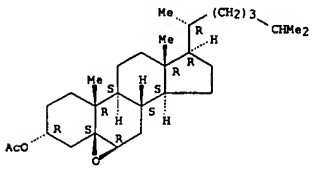
Absolute stereochemistry.



L19 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

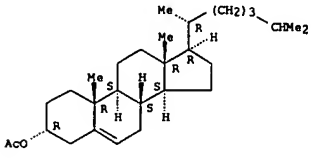
IT **14456-17-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and acyl migration reaction of)
RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



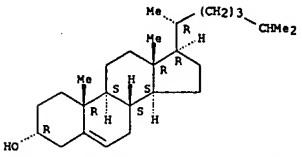
IT **1059-85-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and epoxidn. of)
RN 1059-85-4 CAPLUS
CN Cholest-5-en-3-ol, acetate, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1982:199985 CAPLUS
DOCUMENT NUMBER: 96:199985
TITLE: Chromatographic properties and mass spectrometric fragmentation of dioxygenated C27-, C28-, and C29-steroids
AUTHOR(S): Aringer, Leif; Nordstroem, Lennart
CORPORATE SOURCE: Dep. Obstet. Gynecol., Karolinska Sjukhuset, Stockholm, S-104 01, Swed.
SOURCE: Biomedical Mass Spectrometry (1981), 8(5), 183-203
CODEN: BMSYAL; ISSN: 0306-042X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The sepn. and chromatog. characteristics of 165 dioxygenated C27-29 steroids on Sephadex gel, thin-layer, and gas chromatog. and the mass spectral fragmentation patterns of the steroids and their Me3Si ethers are reported. The results should aid the systematic identification of steroids from metabolic expts.
IT 474-77-1
RL: PRP (Properties)
(chromatog. sepn. and mass spectrum of)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

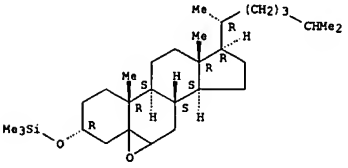
Absolute stereochemistry.



IT 59042-88-5P 67392-81-8P 75764-48-6P
80598-42-1P 80598-68-1P 80656-36-6P
80695-35-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., chromatog. sepn., and mass spectrum of)
RN 59042-88-5 CAPLUS
CN Cholest-5-en-7-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

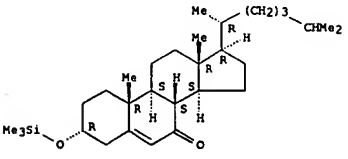
Absolute stereochemistry.

L19 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



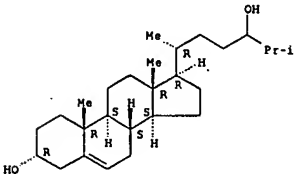
RN 80598-68-1 CAPLUS
CN Cholest-5-en-7-one, 3-[(trimethylsilyl)oxy]-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 80656-36-6 CAPLUS
CN Cholest-5-ene-3,24-diol, (3.alpha.)- (9CI) (CA INDEX NAME)

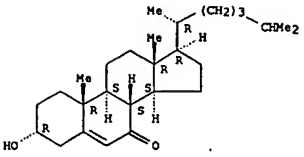
Absolute stereochemistry.



RN 80695-35-8 CAPLUS
CN Cholest-5-ene-3,26-diol, (3.alpha.)- (9CI) (CA INDEX NAME)

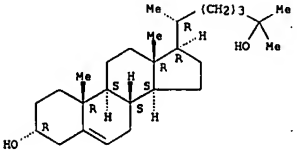
Absolute stereochemistry.

L19 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



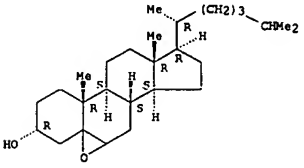
RN 67392-81-8 CAPLUS
CN Cholest-5-ene-3,25-diol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 75764-48-6 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

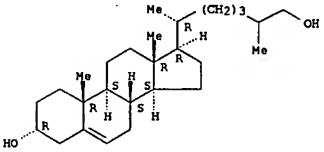
Absolute stereochemistry.



RN 80598-42-1 CAPLUS
CN Silane, [[(3.alpha.)-5,6-epoxycholestan-3-yl]oxy]trimethyl- (9CI) (CA INDEX NAME)

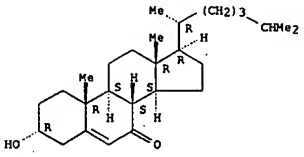
Absolute stereochemistry.

L19 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1980:632886 CAPLUS
DOCUMENT NUMBER: 93:232886
TITLE: Oxidation of 3-oxygenated .DELTA.4- and .DELTA.5-C27 steroids by soybean lipoxygenase and rat liver microsomes
AUTHOR(S): Aringer, Leif
CORPORATE SOURCE: Dep. Obstet. Gynecol., Karolinska Sjukhuset, Stockholm, S-104 01, Swed.
SOURCE: Lipids (1980), 15(8), 563-71
CODEN: LPDSAP; ISSN: 0024-4201
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The formation of dioxygenated metabolites of cholesterol, epicholesterol, 4-cholesten-3.beta.-ol, 4-cholesten-3.alpha.-ol, 4-cholesten-3-one, and 4-stigmasten-3-one was studied after incubations with soybean lipoxygenase and linoleic acid. From cholesterol and epicholesterol, the 7.alpha.-hydroxy, 7.alpha.-hydroperoxy, 7.beta.-hydroxy, 7.beta.-hydroperoxy, 7-oxo, and 5,6-epoxy derivs. were formed, as well as 6.beta.-hydroxy-4-cholesten-3-one. All .DELTA.4-steroids were hydroxylated in the 6.alpha.- and 6.beta.-positions. The ratios between the yields of 6.beta.- and 6.alpha.-hydroxylated metabolites varied between 3:1 and 2:1. Incubations with 4-cholesten-3.alpha.-ol and 4-cholesten-3.beta.-ol also yielded the 4,5-epoxides of these steroids. The ratios between the yields of 4.beta.,5.beta.- and 4.alpha.,5.alpha.-epoxides were .apprx.4:1 for 4-cholesten-3.beta.-ol and .apprx.3:2 for 4-cholesten-3.alpha.-ol. With Fe-supplemented microsomes from rat liver, the compds. formed were qual. and quant. the same as with soybean lipoxygenase, whereas with 18,000 g rat liver supernatant fractions, the yields of all products formed, except for 7.alpha.-hydroxycholesterol and 6.beta.-hydroxy-4-cholesten-3-one, were markedly decreased. Apparently, a rat liver microsomal 6.beta.-hydroxylase exists which can use 4-cholesten-3-one as a substrate, and previous findings of similarities between soybean lipoxygenase and a nonspecific lipoxygenase in rat liver microsomes are extended by these studies.
IT **59042-88-5P 75764-48-6P**
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from epicholesterol by liver microsomal hydroxylase and soybean lipoxygenase)
RN 59042-88-5 CAPLUS
CN Cholest-5-en-7-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

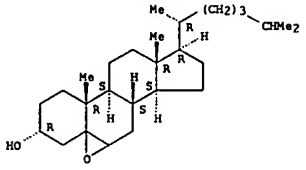
Absolute stereochemistry.



L19 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

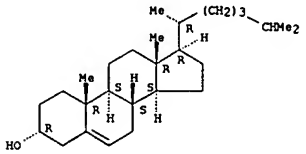
RN 75764-48-6 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



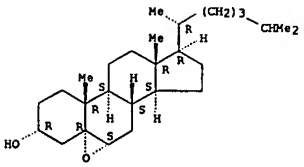
IT **474-77-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of, by liver microsomal hydroxylase and soybean lipoxygenase)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1980:586656 CAPLUS
DOCUMENT NUMBER: 93:186656
TITLE: Stereocontrolled catalytic hydrogenations of 3-oxocholestanes and some related compounds to the corresponding axial 3-alcohols
AUTHOR(S): Ishige, Masayoshi; Shiota, Michio
CORPORATE SOURCE: Chem. Lab., Ochanomizu Univ., Tokyo, Japan
SOURCE: Canadian Journal of Chemistry (1980), 58(11), 1061-8
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Hydrogenations of 5.alpha.-cholestan-3-ones and related compds. with Urushibara nickel A catalyst in cyclohexane gave a preponderance of unstable axial 3.alpha. alcs. Product ratios of axial alcs. decreased with increasing solvent polarity. For 3-oxo-5.alpha.-steroids, the cobalt catalyst was less selective for the axial alc. formation. Conversion of 5.beta.-cholestan-3-one into the axial 3.beta. alc. was attained by hydrogenation catalyzed by Urushibara cobalt A catalyst in MeOH. For a 5.beta.-ketone, alc. media with higher polarities were more favorable for giving the axial alc. The stereochem. of the products obtained from hydrogenations conducted in nonpolar solvents may be understood in terms of the steric congestion around the ketone carbonyl group. However, when alcs. were used as solvents, the product ratios obtained did not correlate well with the congestion ratios of substrates.
IT **2953-38-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by hydrogenation of 5,6.alpha.-epoxy-5.alpha.-cholestan-3-one)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

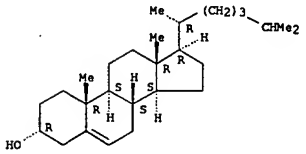
Absolute stereochemistry.



IT **474-77-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by hydrogenation of cholest-5-en-3-one)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

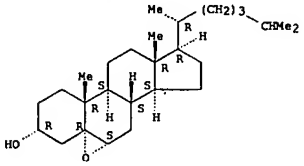
Absolute stereochemistry.

L19 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1979:6610 CAPLUS
DOCUMENT NUMBER: 90:6610
TITLE: Reactions of polyvalent iodine compounds, VIII. Behavior of steroid olefins towards iodine(III) trifluoroacetate
AUTHOR(S): Linskeseder, Maximilian; Zbiral, Erich
CORPORATE SOURCE: Inst. Org. Chem., Univ. Wien, Vienna, Austria
SOURCE: Justus Liebigs Annalen der Chemie (1978), (7), 1076-88
CODEN: JLACBF; ISSN: 0075-4617
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Steroidal olefins treated with I(O2CCF3)3 in Et2O at 0.degree. or with I(O2CCF3)3 in CH2Cl2 cooled to -78.degree. under argon gave epoxides. Thus, 5.alpha.-cholest-2-ene gave 2.beta.,3.beta.-epoxy-5.alpha.-cholestane and 3-methyl-5.alpha.-cholest-2-ene gave 3.beta.-methyl-5.alpha.-cholestane-2.alpha.,3.alpha.-diol, 2.alpha.,3.alpha.-epoxy-3.beta.-methyl-5.alpha.-cholestane, 2.alpha.-iodo-3.beta.-methyl-5.alpha.-cholestan-3.alpha.-ol, and 2.beta.-acetyl-A-nor-5.alpha.-cholestane. Similarly, cholest-4-ene and cholest-5-ene gave 4.alpha.,5.alpha.-epoxycholestane and 5.alpha.,6.alpha.-epoxycholestane, resp. Oxidn. of cholesterol and epicholesterol gave 5.beta.,6.beta.-epoxycholestan-3.beta.-ol and 5.alpha.,6.alpha.-epoxycholestan-3.alpha.-ol.
IT **2953-38-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

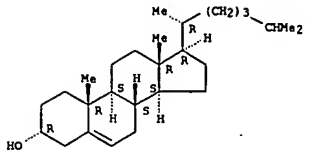
Absolute stereochemistry.



IT **474-77-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with iodine trifluoroacetate)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

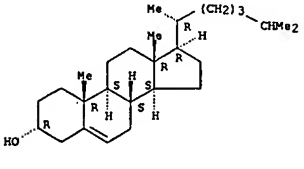
Absolute stereochemistry.

L19 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1975:606473 CAPLUS
DOCUMENT NUMBER: 83:206473
TITLE: Intramolecular catalysts. II. Electrophilic anchimeric assistance by a hydroxy group in the opening of steroidal epoxides by azide anions
AUTHOR(S): Houminer, Yoram
CORPORATE SOURCE: Dep. Org. Chem., Hebrew Univ., Jerusalem, Israel
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1975), (17), 1663-9
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 4.alpha.,5.alpha.-Epoxycholestane and its 7-substituted derivs. and 5.alpha.,6.alpha.-epoxycholestane and its 3-substituted derivs. were prepd. and their structures established. The stereochem. of epoxidn. of the substituted cholest-4-enes I (R = OH, OAc, R1 = H; R = H, R1 = OH; RR1 = O) and cholest-5-enes II (R = OH, R1 = H, R = H, R1 = OH; RR1 = O) with 3-ClC6H4C(O)OOH was discussed. Treatment of 4.alpha.,5.alpha.- and 5.alpha.,6.alpha.-epoxides with NaN3 in refluxing Me2CO-H2O (2:1) caused epoxide ring opening and formation of the corresponding trans diaxial hydroxy azides. The presence of a 7.alpha.-OH group in 4.alpha.,5.alpha.-epoxycholestane and of a 3.alpha.-OH group in 5.alpha.,6.alpha.-epoxycholestane caused acceleration of the epoxide ring opening by the nucleophile. Evidence for an intramol. electrophilically assisted reaction and factors which affect the mechanisms of these reactions were discussed.
IT **474-77-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(epoxidn. of, stereochem. of)
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

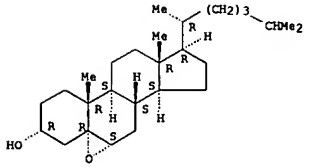
Absolute stereochemistry.



IT **2953-38-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and nucleophilic ring opening of)
RN 2953-38-0 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

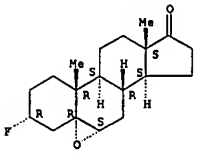
L19 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1970:466798 CAPLUS
DOCUMENT NUMBER: 73:66798
TITLE: Fluorinated steroids. Synthesis of 3.alpha.-fluoro-17.beta.-acetoxyestr-5(10)-ene
AUTHOR(S): Borgna, Jean L.; Mousseron-Canet, Magdeleine
CORPORATE SOURCE: Lab. Chim. Photobioorg., Ecole Nat. Super. Chim., Montpellier, Fr.
SOURCE: Bulletin de la Societe Chimique de France (1970), (6), 2218-25
CODEN: BSCFAS; ISSN: 0037-8968
DOCUMENT TYPE: Journal
LANGUAGE: French
AB I is irradiated to give a mixt. of 3.alpha.-fluoro-17.beta.-acetoxyestr-5(10)-ene (II) and III. IV is treated with Et2NCF2CHClF to give V, and V is converted to I in a series of reactions.
IT **28344-36-7P 28344-37-8P 28344-39-0P 28344-40-3P 28344-45-8P 28344-46-9P 28344-47-0P 28344-48-1P 28344-49-2P 28344-50-5P 28344-52-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 28344-36-7 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-fluoro-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

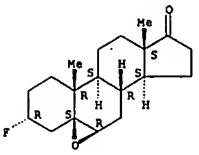
Absolute stereochemistry.



RN 28344-37-8 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-fluoro-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

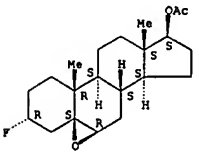
Absolute stereochemistry.

L19 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



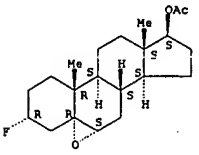
RN 28344-39-0 CAPLUS
CN Androstan-17-ol, 5,6-epoxy-3-fluoro-, acetate, (3.alpha.,5.beta.,6.beta.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 28344-40-3 CAPLUS
CN Androstan-17-ol, 5,6-epoxy-3-fluoro-, acetate, (3.alpha.,5.alpha.,6.alpha.,17.beta.)- (9CI) (CA INDEX NAME)

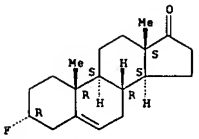
Absolute stereochemistry.



RN 28344-45-8 CAPLUS
CN Androst-5-en-17-one, 3.alpha.-fluoro- (8CI) (CA INDEX NAME)

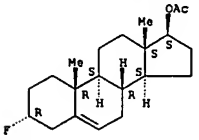
Absolute stereochemistry.

L19 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



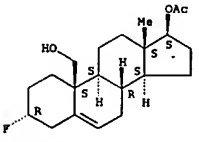
RN 28344-46-9 CAPLUS
CN Androst-5-en-17.beta.-ol, 3.alpha.-fluoro-, acetate (8CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 28344-47-0 CAPLUS
CN Androst-5-ene-17.beta.,19-diol, 3.alpha.-fluoro-, 17-acetate (8CI) (CA INDEX NAME)

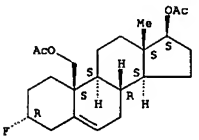
Absolute stereochemistry.



RN 28344-48-1 CAPLUS
CN Androst-5-ene-17.beta.,19-diol, 3.alpha.-fluoro-, diacetate (8CI) (CA INDEX NAME)

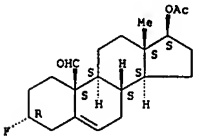
Absolute stereochemistry.

L19 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



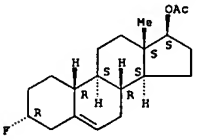
RN 28344-49-2 CAPLUS
CN Androst-5-en-19-al, 3.alpha.-fluoro-17.beta.-hydroxy-, acetate (8CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 28344-50-5 CAPLUS
CN Estr-5-en-17.beta.-ol, 3.alpha.-fluoro-, acetate (8CI) (CA INDEX NAME)

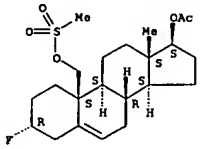
Absolute stereochemistry.



RN 28344-52-7 CAPLUS
CN Androst-5-ene-17.beta.,19-diol, 3.alpha.-fluoro-, 17-acetate methanesulfonate (8CI) (CA INDEX NAME)

Absolute stereochemistry.

L19 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2003 ACS

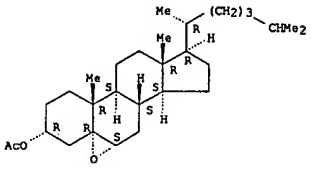
ACCESSION NUMBER: 1967:95274 CAPLUS
DOCUMENT NUMBER: 66:95274
TITLE: Steric orientation in the epoxidation of sterols. I. Reactivity of epicholesterol and epiandrostenolone
AUTHOR(S): Mousseron-Canet, Magdeleine; Guilleux, Jean C.
CORPORATE SOURCE: Ecole Nat. Super. Chim., Montpellier, Fr.
SOURCE: Bulletin de la Societe Chimique de France (1966), 1966(12-3853-8), 3853-8
CODEN: BSCFAS; ISSN: 0037-8968
DOCUMENT TYPE: Journal
LANGUAGE: French

AB Treatment of Ia with O-HOl, CC6H4CO3H in C6H6 gives IIa. (a, R1 = .alpha.-H, .beta.-C8H17) and (b, R1 = OCH2CH2O) throughout this abstr. There is little change in CHCl3, Et2O-CHCl3 (3:1), or Et2O. Thus, in ethercal medium 90% IIa, 5% IIIa, and some hydrolysis products are formed. In Et2O-CHCl3 (3:1) Ia reacts 3.8 times as fast as IVa. Epoxidn. of Ib gives .apprx.100% IIb, m. 236-8.degree., [.alpha.]25D -100.degree. (dioxane). Epoxidn. of Va in anhyd. C6H6 yields 67% mixt. of 53% VIa, m. 111-12.degree., [.alpha.]25D -9.degree. (dioxane), and 47% VIIa, gum, [.alpha.]25D 10.degree. (dioxane), and 33% hydrolysis products. The stereoselectivity is attributed to formation of the intermediate VIII. The ir pectra of II in CCl4 show a single OH stretch band at 3565-70.degree. m.-1 for OH H-bonded to the epoxide. Epoxidn. of Va in Et2O gives a triol monoacetate, m. 65.degree., [.alpha.]25D -15.degree. (dioxane), LiAlH4 redn. of which yields IXa, m. 205-6.degree., [.alpha.]30D -4.degree. (dioxane), .nu.max. (CCl4) 3631 (free secondary OH), 3615 (free tertiary OH), 3500 cm.-1 (H-bonded secondary OH). LiAlH4 redn. of IIb yields Xb, m. 170.degree., .nu.max. (CCl4) 3613 (free tertiary OH), 3515 cm.-1 (H-bonded secondary OH). Treatment of XIb with MeSO2Cl in pyridine yields XIIb, m. 153.degree. (decompn.), [.alpha.]20D 58.degree. (dioxane), which with AcCl and PhNMe2 in CHCl3 gives Vb, m. 130-1.degree., [.alpha.]20D -53.degree. (dioxane). LiAlH4 redn. of Vb yields Ib, m. 136-7.degree., [.alpha.]20D -78.degree. (dioxane). N.M.R. data are given.

IT **2953-35-7P 14456-17-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 2953-35-7 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

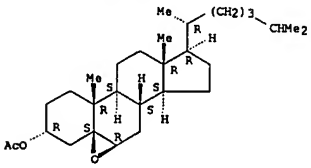
Absolute stereochemistry.



L19 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

RN 14456-17-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

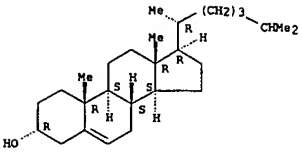
Absolute stereochemistry.



IT **474-77-1 2283-82-1**
RL: PROC (Process)
(stereochemistry of epoxidn. of)

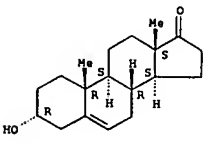
RN 474-77-1 CAPLUS
CN Cholest-5-en-3-ol, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 2283-82-1 CAPLUS
CN Androst-5-en-17-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)

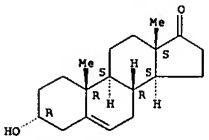
L19 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1963:428713 CAPLUS
DOCUMENT NUMBER: 59:28713
ORIGINAL REFERENCE NO.: 59:5218f-h,5219a-g
TITLE: Chemistry of 3.alpha.-hydroxy-5-androsten-17-one
AUTHOR(S): Williams, Kenneth I. H.; Rosenfeld, Robert S.; Smutowitz, Mildred; Fukushima, David K.
CORPORATE SOURCE: Sloan-Kettering Inst. for Cancer Res., New York, NY
SOURCE: Steroids (1963), 1, 377-93
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB The title compd. (I) and isotopically labeled epimers of I-3-t were prepd. for study of the biol. conversion of 5-androstene-3,17-dione to I. A soln. of 5 g. 3.beta.-hydroxy-5-androsten-17-one ethylene ketal (II) (Fieser, CA 49, 6294c) in Et2O was cooled to 10.degree., treated with 150 ml. 0.28M monoperphthalic acid in Et2O, and allowed to stand overnight at 5.degree.; 200 ml. 10% NaOH soln. was added, the mixt. extd. with AcOEt, the ext. washed with H2O, 2 ml. C5H5N added, and the soln. dried, and evapd. to dryness to give 313 mg. 3.beta. -hydroxy-5,6.alpha.-oxidoandrostan-17-one ethylene ketal (III), m. 166-7.degree. (cyclohexane-C5H5N, then Me2CO-ligroine-C5H5N), [.alpha.] 20D -98.8.degree. (all rotations in CHCl3 unless stated otherwise). A mixt. of 159 mg. III, 10 ml. EtOH, 5 ml. H2O, and 5 drops concd. HCl was left 2.5 hrs. at room temp., neutralized with 5% aq. NaHCO3, and extd. with AcOEt to give 132 mg. cryst. material, which was chromatographed on acid-washed Al2O3. Elution with 1:9 AcOEt-C6H6 gave 83 mg. 3.beta. -hydroxy-5,6.alpha. -oxidoandrostan-17-one (IV), m. 227-9.degree. (cyclohexane-Me2CO), while elution with 1:9 EtOH-AcOEt gave 33 mg. 3.beta.5,6.beta.-trihydroxyandrostan-17one, m. 304-7.degree. (H2O-MeOH). A mixt. of 1.5 g. LiAlH4, 4.0 g. crude III, and 100 ml. abs. tetrahydrofuran (THF) was refluxed 0.5 hr. and treated carefully with AcOEt, then 10% aq. NaOH to give a white ppt. which was filtered off, combined with the residue from the evapd. filtrate, and extd. with AcOEt. The ext. was washed with H2O, dried, and evapd. to dryness to give 2.62 g. 3.beta.,5-dihydroxyandrostan-17-one ethylene ketal (V), m. 220-1.degree. (Me2CO), [.alpha.]27D -18.1.degree.. V (88 mg.) was converted as described for IV to 60 mg. 3.beta.,5-dihydroxyandrostan-17-one (VI), m. 277.5-8.0.degree. (MeOH), [.alpha.]22D +83.6.degree.. MeSO2Cl (1 ml.) was added to a cooled soln. of 1.12 g. V in 20 ml. C5H5N, the mixt. left 2 hrs. at room temp., stirred into ice-H2O, and extd. with AcOEt. The ext. was washed (cold 5% solns. of H2SO4 and NaOH; H2O), dried, evapd., and triturated with Et2O to give 1.28 g. 3.beta.-methylsulfonyloxy-5-hydroxyandrostan-17-one ethylene ketal (VII). A mixt. of 1.16 g. VII, 10 ml. CHCl3, 10 ml. AcCl, and 10 ml. PhNEt2 was refluxed 5 hrs., concd. in vacuo, and extd. with AcOEt and the ext. washed (cold 10% solns. of H2SO4 and NaOH; H2O), dried, and evapd. The residue in C6H6-petr. ether was filtered through Al2O3, evapd., dissolved in 20 ml. MeOH, mixed with 10 ml. 10% aq. KOH, and refluxed 15 min. MeOH was distd., the residue extd. with AcOEt, and worked up as before. The residue in 20 ml. EtOH, 10 ml. H2O, and 1 ml. concd. HCl was refluxed 15 min., extd. with AcOEt and the ext. evapd. and triturated with C6H6 to give 361 mg. I, m. 224-5.degree. (Me2CO), [.alpha.]22D -7.6.degree.. An addnl. 258 mg. I was obtained by chromatography of the evapd. C6H6 soln. and mother liquors. Treatment of 500 mg. I with monoperphthalic acid as described previously gave 548 mg. product, which was chromatographed on acid-washed Al2O3, elution of which with 3:97 AcOEt-C6H6 gave 293 mg. 3.alpha.hydroxy-5,6.alpha.-oxidoandrostan-17-one (VIII), m. 164.5-5.0.degree. (Me2CO-petr. ether), [.alpha.]28D -26.8.degree.; acetate m. 199.0-9.5.degree., [.alpha.]21D +2.5.degree.. Elution with 5:95 AcOEt-C6H6 gave 25 mg. 3.alpha.hydroxy-5,6.alpha.-oxidoetiocholan-17-one, m. 201-3.degree. (MeOH), [.alpha.]22D + 46.5.degree.. VIII (19 mg.) in 20 ml. THF was reduced with 100 mg. LiAlH4; the product was chromatographed on acid washed Al2O3, elution of which with 1:99 EtOH-AcOEt gave 12 mg. 3.alpha.,5,17.beta.-androstanetriol, m. 194.5-6.0.degree. (Me2CO-petr. ether), [.alpha.]22D + 1.degree. (EtOH); 3,17-diacetate m. 198.5-9.0.degree., [.alpha.]25D + 1.2.degree.. A mixt. of 20 mg. VI, 20 ml. Me2CO, and 0.025 ml. H2CrO4 soln. (prepd. by dissolving 26.72 g. CrO3 in 23 ml. concd. H2SO4 and dilg. to 100 ml. with H2O) was left 10 min. at room temp., poured into H2O, extd. with AcOEt, and worked up as usual to give 15 mg. 5-hydroxyandrostane-3,17-dione, m. 213-14.5.degree. (Me2CO-petr. ether). Similarly, 1.5 g. II, 200 ml. Me2CO, and 1.2 ml. 7.64N CrO3-H2SO4 soln. was left 4 min. at 15.degree. under N, poured into ice, extd. with AcOEt, and worked up to give 1.1 g. crude product, a portion of which was recrystd. from EtOH to give 5-androstene-3,17-dione 17-ethylene ketal (IX), m. 141-6.degree., [.alpha.]26D -44.1.degree. IX (1 g.) in 25 ml. Et2O was added during 30 min. to a stirred soln. of 125 mg. LiAlT4 (25 mc.), the mixt. stirred 30 min., and worked up as for a normal redn. The product was refluxed 3 hrs. with 100 ml. EtOH contg. 10 drops concd. HCl, the soln. dild. with H2O, extd. with Et2O, and worked up. The residue was chromatographed on acid-washed Al2O3, elution of which with Et2O-C6H6 gave 2 fractions of 3.beta.-hydroxy-5-androsten-17-one-3.alpha.-t (X) with sp. activities of 8.65 .times. 108 and 4.76 .times. 108 counts/min. Paper-chromatography of samples of these fractions mixed with carrier X showed the 2nd to be radiochem. pure X. A sample of this fraction mixed with nonisotopic X, was converted by Ac2O-C5H5N to the acetate, m. 168.degree. (MeOH). Another dild. sample was treated 10 hrs. with (tert-BuO)3Al in Me2 CO-C6H6, and chromatographed on Al2O3 to give 4-androstene-3,17-dione, m. 169-70.degree. (Me2CO-petr. ether). The sequence of reactions leading from II to I was performed on 50 mg. X (238 .times. 106 counts/min.) without purification of intermediates. The crude I-3.beta.-t was chromatographed on 8 g. acid-washed Al2O3 to give approx. 2 mg. cryst. material, which was streaked on two 18 .times. 118 cm. strips of Whatman no. 1 paper and chromatographed 30 hrs. in 5:4:1 isooctane-MeOH-H2O. Radioactivity was located by a Vanguard Automatic Chromatogram Scanner and was extd. with MeOH, the ext. evapd. to dryness, and the residue dissolved in 50 ml. hot C6H6. The sp. activity of this soln. was 9.1 .times. 106 counts/min. The purity of the sample was established by mixing an aliquot with inactive I and recrystg., and by converting part of the evapd. filtrate to the acetate; these expts. indicated 96% purity. Ultraviolet and infrared max. are recorded.

IT **2283-82-1**, Androst-5-en-17-one, 3.alpha.-hydroxy-
(prepn. and reactions of)
RN 2283-82-1 CAPLUS
CN Androst-5-en-17-one, 3-hydroxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

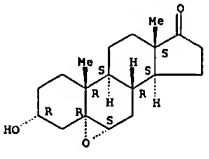
Absolute stereochemistry.

L19 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



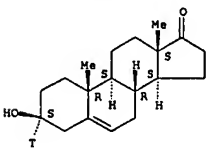
IT **38522-36-0**, 5.alpha.-Androstan-17-one, 5,6.alpha.-epoxy-3.alpha.-hydroxy- **99117-13-2**, Androst-5-en-17-one-3.alpha.-t, 3.beta.-hydroxy- **99117-14-3**, Androst-5-en-17-one-3.beta.-t, 3.alpha.-hydroxy-
(prepn. of)
RN 38522-36-0 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-hydroxy-, (3.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 99117-13-2 CAPLUS
CN Androst-5-en-17-one-3-t, 3-hydroxy-, (3.beta.)- (9CI) (CA INDEX NAME)

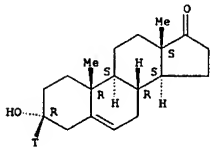
Absolute stereochemistry.



RN 99117-14-3 CAPLUS
CN Androst-5-en-17-one-3.beta.-t, 3.alpha.-hydroxy- (7CI) (CA INDEX NAME)

Absolute stereochemistry.

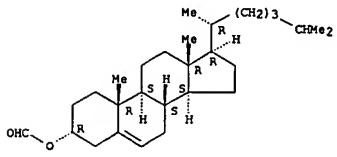
L19 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1959:100035 CAPLUS
DOCUMENT NUMBER: 53:100035
ORIGINAL REFERENCE NO.: 53:18099i,18100a-h
TITLE: Catalytic reduction of epicholesterol .beta.-oxide
AUTHOR(S): Urushibara, Yoshiyuki; Mori, Kazuko
CORPORATE SOURCE: Univ. Tokyo
SOURCE: Bull. Chem. Soc. Japan (1958), 31, 1068-71
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Catalytic reduction of epicholesterol .beta.-oxide (I) yields coprostane (II), 6.beta.-coprostanol (III), and 3.alpha.,6.beta.-coprostanediol (IV). A suspension of 180 mg. I in 18 cc. AcOH with H over 36 mg. Adams PtO2 at ordinary temp. and pressure (the reaction was complete in 1 hr., 1.5 moles H being absorbed), the evapd. in vacuo and the residual mixt. filtered gave 178 mg. oily substance. Treatment of the oil with Ac2O and pyridine yielded 183 mg. oily substance, which was chromatographed on a column of 9 g. Al2O3 and eluted with 40 cc. petr. ether gave 13.5 mg. oily material crystd. by soln. in MeOH and cooling; recrystn. from acetone gave II, needles, m. and mixed m.p. 67-70.degree.. Elution with 60 cc. petr. ether-C6H6 (9:1) gave 27 mg. of another material yielding on recryst. from MeOH 24 mg. 6.beta.-coprostanol acetate (V), m. 108-9.degree.. V in 1 cc. anhyd. ether dropped into 10 mg. LiAlH4 in 1 cc. ether and the mixt. refluxed 1 hr., washed, and dried and evapd. gave 19.5 mg. oily substance. III did not crystallize even from cold MeOH; treated in 0.2 cc. AcOH with 12.5 mg. Cr2O3 in 0.5 cc. 90% AcOH, held overnight, and water added gave 15 mg. 6-coprostanone (VI), m. 125-31.degree.; recrystn. from MeOH gave 12 mg. m. 128-29.5.degree.. VI (8 mg.) in 1 cc. AcOH and 1 drop concd. HCl refluxed 30 min. gave 7 mg. 6-cholestanone (5 mg. after recrystn. from MeOH), m. and mixed p.m. 85.degree.. V gave no depression of the m.p. with V prepd. by catalytic reduction of 4-cholesten-6.beta.-ol acetate. Elution with 60 cc. C6H6Et2O (19:1) and 40 cc. (9:1) gave 21.5 mg. material which crystd. from cold MeOH; repeated recrystn. from MeOH gave 6.5 mg. 3.alpha.,6.beta.-coprostanediol diacetate (VII), needles, m. 103-6.5.degree., no depression of m.p. when with VII prepd. by catalytic reduction of 4-cholestene-3.alpha.,6.beta.-diol diacetate (VIII). VII treated with LiAlH4 gave IV, a glassy mass, m. 134-6.degree., which with Cr2O3 in AcOH yielded 3,6-coprostanedione (IX), needles, m. 174-5.5.degree., no depression of m.p. with IX prepd. by oxidation of 3.beta.,6.beta.-coprostanediol. A suspension of 1 g. epicholesterol in 10 cc. HCO2H heated 5 min. to 70-80.degree. with stirring formed epicholesterol 3-formate (X) which sepd. as an oil and was cooled to 25.degree., the solidified X shaken occasionally with 1 cc. 30% H2O2 at 40.degree. dissolved in 30 min., the soln. held overnight at room temp., treated with 15 cc. boiling water, allowed to cool, the white granular material collected, dissolved in MeOH 30 cc., treated with 1 cc. 25% aq. NaOH, warmed on a water bath 10 min., acidified with HCl, dild. with water, and extd. with ether gave 3.alpha.,5,6.beta.-cholestanetriol (XI), a glassy mass. XI with 7 cc. Ac2O and 10 cc. pyridine gave 1.2 g. oil, which, chromatographed on 30 g. Al2O3 and eluted with 2100 cc. pert. ether-C6H6 (9:1), and 2300 cc. (4:1) gave 450 mg. 3.alpha.,5,6.beta.-cholestanetriol 3,6-diacetate (XII), recrystd. from MeOH to give 270 mg. m. 86-7.degree.. Elution with 300 cc. petr. ether-C6H6, 400 cc. C6H6, 100 cc. C6H6-Et2O (99:1), 100 cc. (98:2), and 100 cc. (95:5) gave 190 mg. of material with no sharp m.p., assumed to be a mixt. of XII and 3.alpha.,5,6.beta.-cholestanetriol 6-acetate (XIII) because acetylation gave only XII. Elution with 200 cc. (C6H6-Et2O (9:1), 200 cc. (4:1), 100

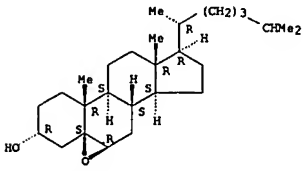
L19 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2003 ACS (Continued)
cc. (1:1), and 600 cc. ether gave 165 mg. XIII, recrystd. from MeOH to give 125 mg. XIII, m. 177-8.degree.. XIII was oxidized to 5,6.beta.-dihydroxy-3-cholestanone 6-acetate (XIV), m. 159-60.degree. no depression of m.p. with XIV prepd. by oxidation of 3.beta.,5,6.beta.-cholestanetriol 6-acetate. Elution with 600 cc. Et2O-Me2CO gave 170 mg. gel, assumed to be a mixt. of XIII and XI because on acetylation it gave only XII. XII (165 mg.) treated with 2 drops SOCl2 in 1 cc. pyridine at 0.degree., and the mixt. poured into ice water after 5 min. finally gave 130 mg. VIII, needles, m. 102.5-3.5.degree. (MeOH), [.alpha.]30D 117.degree. (c 2.20, CHCl3). PtO2 (10 mg.) in 50 cc. EtOH was satd. with H, 47 mg. VIII added, and the mixt. shaken with H at ordinary temp. and pressure; the reaction was complete in 20 min., 1 mole H2 being absorbed. Filtration and evapn. gave 46 mg. oil which was chromatographed on a column of 1.5 g. Al2O3 and eluted with 30 cc. petr. ether-C6H6 (4:1), 20 cc. (7:3) and 20 cc. (1:1), giving 23 mg. VII, 18 mg. when recrystd. from MeOH, m. 103-4.degree., [.alpha.]18D 56.degree. (c 1.85, CHCl3)].

IT 24116-45-8, 5.beta.-Cholestan-3.alpha.-ol, 5,6.beta.-epoxy-
(catalytic redn. of)
RN 24116-45-8 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.alpha.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



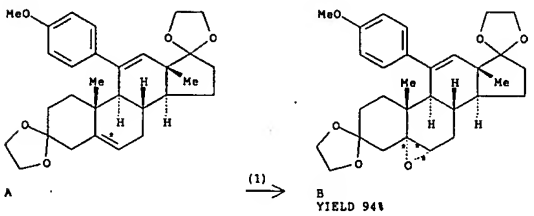
IT 103365-07-7, Cholest-5-en-3.alpha.-ol, formate
(prepn. of)
RN 103365-07-7 CAPLUS
CN Cholest-5-en-3-ol, formate, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

```
=> d his

     (FILE 'HOME' ENTERED AT 15:35:33 ON 06 MAR 2003)

     FILE 'REGISTRY' ENTERED AT 15:36:32 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 15:37:27 ON 06 MAR 2003

     FILE 'REGISTRY' ENTERED AT 15:38:37 ON 06 MAR 2003

     FILE 'CAPLUS' ENTERED AT 15:44:08 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 15:44:48 ON 06 MAR 2003

     FILE 'USPATFULL' ENTERED AT 15:45:31 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 15:48:10 ON 06 MAR 2003

     FILE 'REGISTRY' ENTERED AT 15:57:42 ON 06 MAR 2003

     FILE 'CAPLUS' ENTERED AT 16:02:58 ON 06 MAR 2003

     FILE 'CASREACT' ENTERED AT 16:04:27 ON 06 MAR 2003
L1             STRUCTURE UPLOADED
L2               0 S L1
L3               0 S L1 FULL

     FILE 'REGISTRY' ENTERED AT 16:05:05 ON 06 MAR 2003
L4             STRUCTURE UPLOADED
L5             STRUCTURE UPLOADED
L6             STRUCTURE UPLOADED
L7          1995 S L4 FULL
L8           116 S L6 FULL
L9           116 S L6  RAN=(103482-46-8,)
L10          116 S L8 OR L9

     FILE 'CAPLUS' ENTERED AT 16:08:06 ON 06 MAR 2003
L11          858 S L7/PREP
L12           16 S L10/RCT
L13            0 S L11 AND L12

     FILE 'USPATFULL' ENTERED AT 16:09:52 ON 06 MAR 2003
L14            1 S L7 AND L10

     FILE 'BEILSTEIN' ENTERED AT 16:10:31 ON 06 MAR 2003
L15         1986 S L4 FULL
L16          120 S L6 FULL
L17           22 S L10 FULL
L18            0 S L15 AND L17

     FILE 'HCAPLUS' ENTERED AT 16:15:02 ON 06 MAR 2003
```

L11 ANSWER 3 OF 14 CASREACT COPYRIGHT 2003 ACS
ACCESSION NUMBER: 124:232870 CASREACT
TITLE: 11.beta.-Aryl steroids in the androstene series. The role of the 11.beta.-region in steroid progesterone receptor interaction
AUTHOR(S): Cleve, Arwed; Fritzemeier, Karl-Heinrich; Heinrich, Nikolaus; Klar, Ulrich; Mueller-Fahrnow, Anke; Neef, Guenter; Ottow, Eckhard; Schwede, Wolfgang
CORPORATE SOURCE: Research Lab. Schering AG, Berlin, D-13342, Germany
SOURCE: Tetrahedron (1996), 52(5), 1529-42
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The syntheses of 11.beta.-arylandrost-4-en-3-one and the corresponding 9.beta.,19-cyclo deriv. are described. Steric interaction between C-19 and the aryl residue effects conformational changes of the steroid ring system that result in reduced affinity for the progesterone receptor. The conformation of 11.beta.-arylandrostenes is discussed in comparison with known antiprogestational steroids.

RX(1) OF 7 A ===> B...



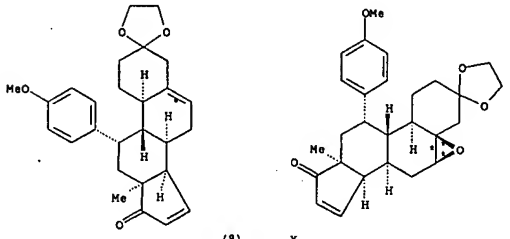
A
B
YIELD 94%

RX(1) RCT A 174505-02-3
RGT C 7722-84-1 H2O2, D 657-15-8 Ethanone, 2,2,2-trifluoro-1-(3-nitrophenyl)-, E 144-55-8 NaHCO3
PRO B 174505-03-4
SOL 75-09-2 CH2Cl2

L11 ANSWER 4 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)

L11 ANSWER 4 OF 14 CASREACT COPYRIGHT 2003 ACS
ACCESSION NUMBER: 123:112493 CASREACT
TITLE: Synthesis of 14.beta.-H antiprogestins
AUTHOR(S): Cleve, Arwed; Neef, Guenter; Ottow, Eckhard; Scholz, Stefan; Schwede, Wolfgang
CORPORATE SOURCE: Research Laboratories, Schering AG, Berlin, 13342, Germany
SOURCE: Tetrahedron (1995), 51(19), 5563-72
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An efficient approach to 14.beta.-H antiprogestins is described. The key step of the synthesis is a cleavage of 17-silyl dienol ethers which are generated from the corresponding .DELTA.14-17-ketones, with hydrogen fluoride-pyridine complex. This method gave access to 14.beta.-H analogs of the 11.beta.,19-bridged series as well as of the 10.beta.-H,11B-aryl series. In both series the inversion at C-14 did not lead to greater sepn. between antiprogestational and antiglucocorticoid activity.

RX(8) OF 110 ...W ===> X...



W
X
YIELD 53%

QD 241,74

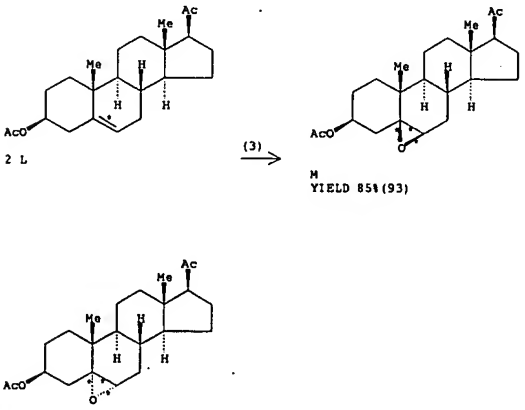
RX(8) RCT W 143615-08-1

STAGE(1)
RGT Y 7722-84-1 H2O2, E 144-55-8 NaHCO3, Z 657-15-8 Ethanone, 2,2,2-trifluoro-1-(3-nitrophenyl)-
SOL 75-09-2 CH2Cl2

STAGE(2)
RGT AA 7772-98-7 Na2S2O3
PRO X 143528-83-0
NTE STEREOSELECTIVE

L11 ANSWER 5 OF 14 CASREACT COPYRIGHT 2003 ACS
ACCESSION NUMBER: 122:291292 CASREACT
TITLE: Facile .beta.-epoxidation of unsaturated steroids with permanganate ion
AUTHOR(S): Parish, Edward J.; Li, Huaizhong; Li, Shengrong
CORPORATE SOURCE: Dep. Chem., Auburn Univ., AL, 36849-5312, USA
SOURCE: Synthetic Communications (1995), 25(6), 927-49
CODEN: SYNCAV; ISSN: 0039-7911
PUBLISHER: Dekker
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A mixt. of KMnO4-CuSO4 in refluxing methylene chloride, in the presence of a small amt. of water and tert-butanol, has been found to be a highly .beta.-selective high-yield epoxidn. reagent for .DELTA.4, .DELTA.5 and .DELTA.7 unsatd. steroids. The .DELTA.8 unsatd. steroid 24,25-dihydrolanosterol acetate underwent allylic oxidn. under these conditions.

RX(3) OF 6 2 L ===> M + N



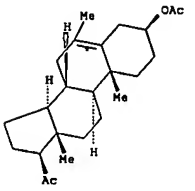
2 L
M
YIELD 85%(93)

N
YIELD 85%(7)

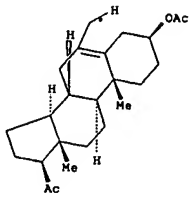
RX(3) RCT L 1778-02-5

STAGE(1)
RGT D 7722-64-7 KMnO4, E 7758-98-7 CuSO4
CAT 7732-18-5 Water

L11 ANSWER 7 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)

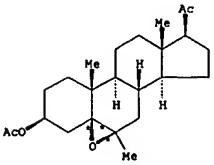


2 N

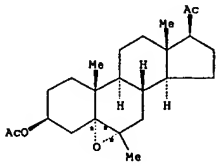


N

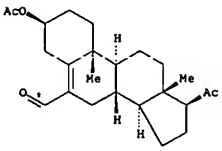
(5) →



O
YIELD 4%



P
YIELD 7%



Q
YIELD 14%

RX(5) RCT N 6222-82-8

L11 ANSWER 7 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)

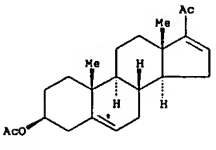
RGT C 92669-44-8 Ruthenium, dioxo[5,10,15,20-tetrakis(2,4,6-trimethylphenyl)-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (OC-6-12)-
PRO O 144067-53-8, P 4924-37-2, Q 144067-51-6
SOL 71-43-2 Benzene

L11 ANSWER 8 OF 14 CASREACT COPYRIGHT 2003 ACS

ACCESSION NUMBER: 116:152142 CASREACT
TITLE: Oxidation of natural targets by dioxiranes. Oxyfunctionalization of steroids
AUTHOR(S): Bovicelli, Paolo; Lupattelli, Paolo; Mincione, Enrico; Prencipe, Teresa; Curci, Ruggero
CORPORATE SOURCE: Dep. Chem., Univ. Rome "La Sapienza", Rome, I-00185, Italy
SOURCE: Journal of Organic Chemistry (1992), 57(7), 2182-4
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

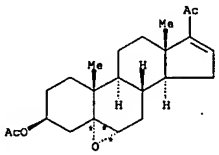
AB The oxyfunctionalization of 4-unsatd. steroids I (R = C8H17, Ac) with dimethyldioxirane (II) gave 80-90% 4,5-epoxides III with .alpha.:.beta. = 3:1 and 4:1, resp. The treatment of 5,16-pregnandien-20-one IV with II gave 95% 5,6-epoxide V with .beta.:.alpha. = 3:2. The treatment of 1,4-unsatd. steroid VI with II gave 80% 1,2-epoxide VII. The oxidn. of estrone acetate with II gave the corresponding 9.alpha.-hydroxy deriv.

RX(2) OF 4 2 F ===> G + H

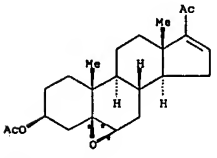


2 F

(2) →



G
YIELD 95%(40)



H
YIELD 95%(60)

RX(2) RCT F 979-02-2
RGT D 74087-85-7 Dimethyldioxirane
PRO G 14279-42-6, H 66880-01-1
SOL 67-64-1 Me2CO

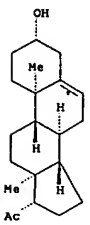
L11 ANSWER 8 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)

L11 ANSWER 9 OF 14 CASREACT COPYRIGHT 2003 ACS

ACCESSION NUMBER: 114:143786 CASREACT
TITLE: Stereoselective epoxidation of stigmasterol and pregnenolone to give 5.beta.,6.beta.-epoxides
AUTHOR(S): Galagovsky, Lydia R.; Gros, Eduardo G.
CORPORATE SOURCE: Fac. Cienc. Exactas Nat., Univ. Buenos Aires, Buenos Aires, 1428, Argent.
SOURCE: Journal of Chemical Research, Synopses (1990), (11), 366-7
CODEN: JRPSDC; ISSN: 0308-2342
DOCUMENT TYPE: Journal
LANGUAGE: English

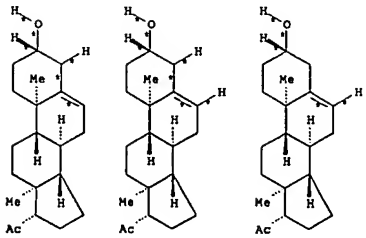
AB Reaction of stigmasterol and pregnenolone with chromyl diacetate in CH2Cl2 at -94.degree. gave the 5.beta.,6.beta.-epoxy derivs., in 26% and 38% resp. in addn. to 3 other products in each case. This procedure offers a selective epoxidn. of the homoallylic alc. system at low temp.

RX(2) OF 2 4 I ===> J + K + L + M



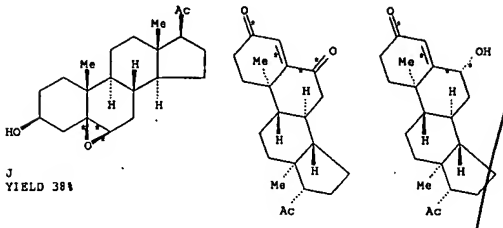
I

L11 ANSWER 9 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)



I I I

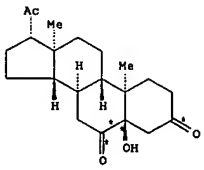
(2)



J
YIELD 38%

K L

L11 ANSWER 9 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)



M

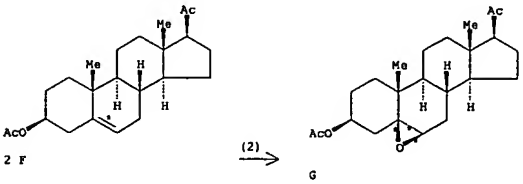
RX(2) RCT I 145-13-1
RGT F 1333-82-0 CrO3, G 108-24-7 Ac2O
PRO J 6585-70-2, K 2243-08-5, L 604-19-3, M 111294-63-4
SOL 75-09-2 CH2Cl2

L11 ANSWER 10 OF 14 CASREACT COPYRIGHT 2003 ACS

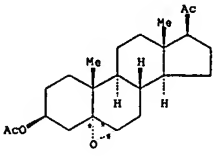
ACCESSION NUMBER: 114:24289 CASREACT
TITLE: Iodylbenzene, a new epoxidizing agent of the .DELTA.5-steroids
AUTHOR(S): Barret, R.; Sabot, J. P.; Pautet, F.; Cerf, P.; Daudon, M.
CORPORATE SOURCE: Lab. Chim. Org., Fac. Pharm., Lyon, 69 373, Fr.
SOURCE: Oxidation Communications (1989), 12(1-2), 55-8
CODEN: OXCODW; ISSN: 0209-4541
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the presence of vanadyl acetylacetonate, iodylbenzene oxidizes .DELTA.5-steroids into epoxides. Six steroids were oxidized with these reagents: cholesteryl acetate dehydroepiandrosterone acetate, pregnenolone acetate, dehydroepiandrosterone ethylene ketal acetate, pregnenolone ethylene ketal acetate, and cholest-5-ene-3-one. The first 5 steroids gave mainly the .beta.-epoxides. However, the oxidn. of cholest-5-ene-3-one occurred with high .alpha.-selectivity. A radical mechanism is suggested for the reaction.

RX(2) OF 2 2 F ===> G + H



2 F (2) G



H

RX(2) RCT F 1778-02-5
PRO G 6661-94-5, H 14148-09-5
NTE 48% overall

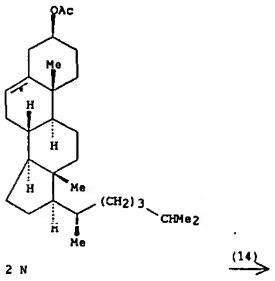
L11 ANSWER 12 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)

L11 ANSWER 13 OF 14 CASREACT COPYRIGHT 2003 ACS

ACCESSION NUMBER: 105:134234 CASREACT
TITLE: Metal ion-catalyzed oxidation of steroids. Part XXI. On the mode of epoxidation by the tetraphenylporphinatoiron(III)-iodosylbenzene system
AUTHOR(S): Muto, Toshiki; Umehara, Junko; Masumori, Hiroaki; Miura, Toshiaki; Kimura, Michiya
CORPORATE SOURCE: Fac. Pharm. Sci., Hokkaido Univ., Sapporo, 060, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1985), 33(11), 4749-54
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Epoxidn. of cholesteryl acetate by a nonradical reagent system, such as 3-ClC6H4C(O)O2H, Mo(CO)6-Me3COOH, or Fe(ClO4)3-H2O2, was highly .alpha.-stereoselective. In contrast, a radical reagent system, such as Fe(acac)3-Me3COOH [acac = acetylacetonate], KO2-Me3CBr, or biacetyl-O2-photolysis, showed high .beta.-selectivity. The stereoselectivity in the epoxidn. of cholesteryl acetate seems, therefore, to be a useful indication of the mode of reaction. On this basis, epoxidn. may occur through a radical process in the tetraphenylporphinatoiron(III) chloride-iodosylbenzene system. Earlier studies with stilbene had failed to clarify the mechanism in this system.

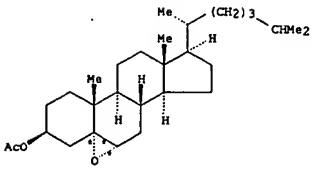
RX(14) OF 42 2 N ===> O + P



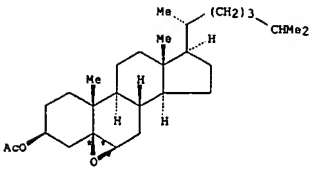
2 N

(14)

L11 ANSWER 13 OF 14 CASREACT COPYRIGHT 2003 ACS (Continued)



O



P

RX(14) RCT N 604-35-3
RGT I 431-03-8 MeCOCOMe, J 7782-44-7 O2
PRO O 4092-57-3, P 1256-31-1
SOL 71-43-2 Benzene

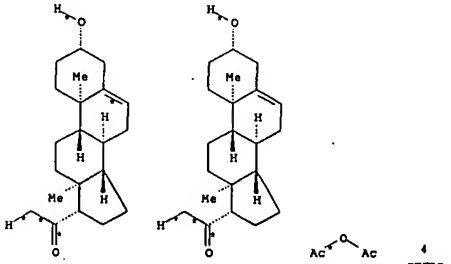
L11 ANSWER 14 OF 14 CASREACT COPYRIGHT 2003 ACS

ACCESSION NUMBER: 103:123783 CASREACT
TITLE: A facile preparation of ecdysone side chain by utilizing a furan derivative
AUTHOR(S): Kametani, Tetsuji; Katoh, Tadashi; Tsubuki, Masayoshi; Honda, Toshio
CORPORATE SOURCE: Inst. Med. Chem., Hoshi Univ., Tokyo, 142, Japan
SOURCE: Chemistry Letters (1985), (4), 485-8
CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Construction of the ecdysone side chain starting from pregnenolone was achieved via a furan deriv. I (R = H). Redn. of I (R = H) over Pd/C afforded the hydrogenated furan deriv. with the desired stereochem. at C-20, exclusively, whose subsequent redn. over rhodium-alumina, followed by RuO4 oxidn., gave the C-22 epimeric lactones II (R = Ac) in a ratio of ca. 1:1. Grignard reaction of II (R = Ac) with MeMgBr led to the triols III (R = H) having ecdysone-type side chains.

RX(36) OF 69 COMPOSED OF RX(1), RX(2), RX(3), RX(4)
RX(36) 3 A + 3 B + 3 E ===> M + N

3 A



B 2 B 3 E

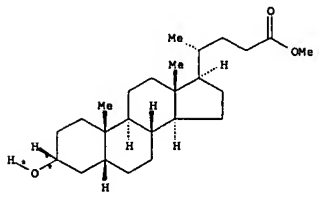
4 STEPS

L6 ANSWER 1 OF 3 CASREACT COPYRIGHT 2003 ACS

ACCESSION NUMBER: 134:311348 CASREACT
TITLE: The application of dimethyldioxirane for the selective oxidation of polyfunctional steroids
AUTHOR(S): Sasaki, Tomoaki; Nakamori, Ryusei; Yamaguchi, Takeru; Kasuga, Yuka; Iida, Takashi; Nambara, Toshio
CORPORATE SOURCE: Department of Chemistry, College of Humanities and Sciences, Nihon University, Tokyo, 156-8550, Japan
SOURCE: Chemistry and Physics of Lipids (2001), 109(2), 135-143
CODEN: CPLIA4; ISSN: 0009-3084
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

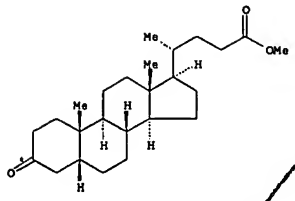
AB Oxidn. and epoxidn. reactions of a series of structurally different steroids related to Me 5.beta.-cholanoates having hydroxyl groups and/or double bonds by treatment with dimethyldioxirane (DMDO) are described. Steroidal alcs., olefins, and unsatd. alcs. and conjugated enones with DMDO were transformed into ketones, epoxides, and epoxy-ketones, resp., in good isolated yields. The regio- and stereoselectivities for DMDO reaction differing from those obsd. for org. peracids, tert-Bu hydroperoxide and alk. hydrogen peroxide are also discussed.

RX(1) OF 25 A ===> B



A

(1)



B
YIELD 90%

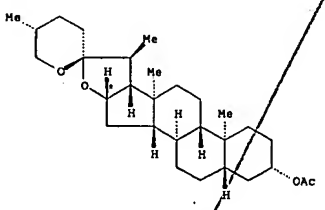
RX(1) RCT A 1249-75-8
RGT C 74087-85-7 Dimethyldioxirane
PRO B 1173-32-6
SOL 75-09-2 CH2Cl2, 67-66-3 CHCl3
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CASREACT COPYRIGHT 2003 ACS

ACCESSION NUMBER: 122:214324 CASREACT
TITLE: Sapogenins and dimethyldioxirane: a new entry to cholestanes functionalized at the side chain
AUTHOR(S): Bovicelli, Paolo; Lupattelli, Paolo; Fracassi, Donatella
CORPORATE SOURCE: Dipartimento Chimica, Univ. La Sapienza, Roma, 5-00185, Israel
SOURCE: Tetrahedron Letters (1994), 35(6), 935-8
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

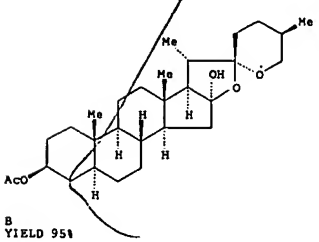
AB A new and simple opening of the sapogenin spiroketal side chain by DMDO as oxyfunctionalizing agent is reported. Thus, tigogenin acetate, hecogenin, and 5,6-dibromodiosgenin were converted to the 16.alpha.-hydroxy derivs., which were subjected to acetolysis to give the 16,22-dioxo-27-acetoxycholestanes. Diosgenin acetate required 2 equiv. dimethyldioxirane because the hydroxylation was preceded by 5,6-epoxidn.

RX(1) OF 17 A ===> B...



A

(1)



B
YIELD 95%

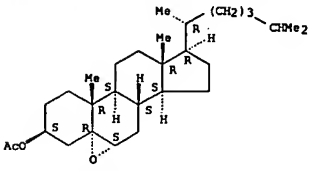
L6 ANSWER 1 OF 3 CASREACT COPYRIGHT 2003 ACS (Continued)

RX(1) RCT A 1249-75-8
RGT C 74087-85-7 Dimethyldioxirane
PRO B 1173-32-6
SOL 75-09-2 CH2Cl2, 67-66-3 CHCl3
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CASREACT COPYRIGHT 2003 ACS (Continued)

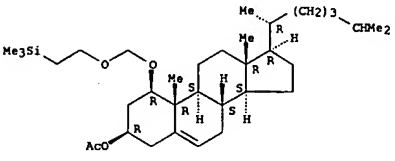
RX(1) RCT A 2530-07-6
RGT C 74087-85-7 Dimethyldioxirane
PRO B 161979-64-2
NTE 2 H AT ROOM TEMP.

L28 ANSWER 30 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)



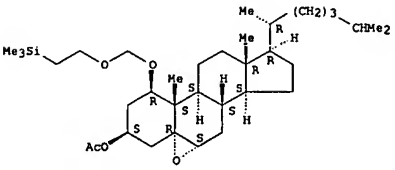
RN 150564-82-2 CAPLUS
CN Cholest-5-en-3-ol, 1-[[2-(trimethylsilyl)ethoxy]methoxy]-, acetate, (1.beta.,3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 158422-20-9 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-1-[[2-(trimethylsilyl)ethoxy]methoxy]-, acetate, (1.beta.,3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 158422-22-1 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-1-[[2-(trimethylsilyl)ethoxy]methoxy]-, acetate, (1.beta.,3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

L28 ANSWER 31 OF 38 CAPLUS COPYRIGHT 2003 ACS

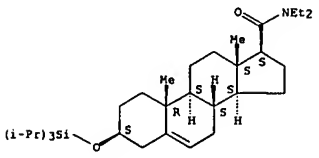
ACCESSION NUMBER: 1994:534548 CAPLUS
DOCUMENT NUMBER: 121:134548
TITLE: Synthesis of a B-homo-6-azaandrost-4-ene-3-one as a novel steroidal 5.alpha.-reductase inhibitor
AUTHOR(S): Maloney, Patrick R.; Fang, Francis G.
CORPORATE SOURCE: Dep. Med. Chem., Glaxo Inc. Res. Inst., Research Triangle Park, NC, 27709, USA
SOURCE: Tetrahedron Letters (1994), 35(18), 2823-6
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The prepn. of a B-ring homologated analog (I) of 17.beta.-N,N-diethylcarbamoyl-6-azaandrost-4-en-3-one, a potent inhibitors of type 2 steroidal 5.alpha.-reductase, is described.

IT 151520-50-2P 151520-72-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, in prepn. of homoazaandrostenone)

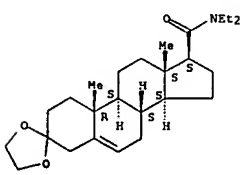
RN 151520-50-2 CAPLUS
CN Androst-5-ene-17-carboxamide, N,N-diethyl-3-[[tris(1-methylethyl)silyl]oxy]-, (3.beta.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 151520-72-8 CAPLUS
CN Androst-5-ene-17-carboxamide, 3,3-[1,2-ethanediylbis(oxy)]-N,N-diethyl-, (17.beta.)- (9CI) (CA INDEX NAME)

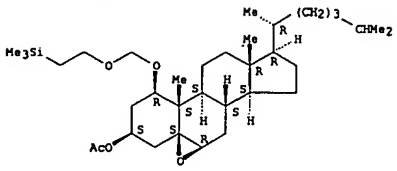
Absolute stereochemistry.



IT 156901-67-6P 156901-69-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

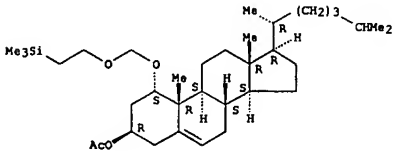
L28 ANSWER 30 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)

Absolute stereochemistry.



RN 158422-31-2 CAPLUS
CN Cholest-5-en-3-ol, 1-[[2-(trimethylsilyl)ethoxy]methoxy]-, acetate, (1.alpha.,3.beta.)- (9CI) (CA INDEX NAME)

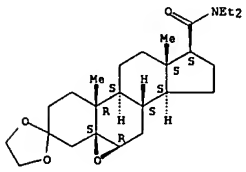
Absolute stereochemistry.



L28 ANSWER 31 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)

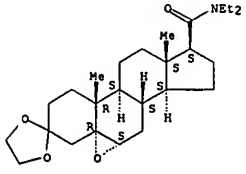
RN 156901-67-6 CAPLUS
CN Androstane-17-carboxamide, 5,6-epoxy-3,3-[1,2-ethanediylbis(oxy)]-N,N-diethyl-, (5.beta.,6.beta.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 156901-69-8 CAPLUS
CN Androstane-17-carboxamide, 5,6-epoxy-3,3-[1,2-ethanediylbis(oxy)]-N,N-diethyl-, (5.alpha.,6.alpha.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

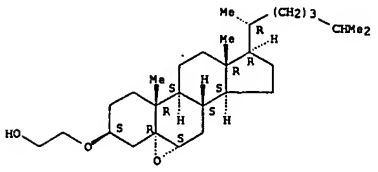


IT 151520-49-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of homoazaandrostenone)

RN 151520-49-9 CAPLUS
CN Androst-5-ene-17-carboxamide, N,N-diethyl-3-hydroxy-, (3.beta.,17.beta.)- (9CI) (CA INDEX NAME)

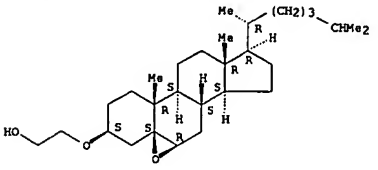
Absolute stereochemistry.

L28 ANSWER 33 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)

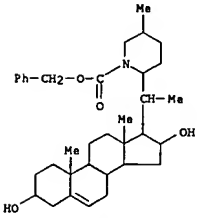


RN 155252-33-8 CAPLUS
CN Ethanol, 2-[[(3.beta.,5.beta.,6.beta.)-5,6-epoxycholestan-3-yl]oxy]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

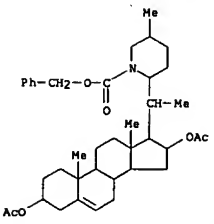


L28 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:39255 CAPLUS
DOCUMENT NUMBER: 118:39255
TITLE: The synthesis of 4-keto-steroidal alkaloids
AUTHOR(S): Viloria, Elizabeth; Meccia, Gina; Usubillaga, Alfredo N.
CORPORATE SOURCE: Fac. Farm., Univ. Los Andes, Merida, Venez.
SOURCE: Journal of Natural Products (1992), 55(9), 1178-85
CODEN: JNPRDF; ISSN: 0163-3864
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To obtain 4-keto-steroidal alkaloids from solasodine, two routes were tried: allylic acetoxylation of (22S,25R)-22,26-N-Cbz-epiminocholest-5-ene-3.beta.,16.beta.-diol-acetate (I, Cbz = PhCH2CO2) and hydroboration of (22S,25R)-16.beta.-acetyl-22,26-N-Cbz-epiminocholest-4-en-3-one. The first route yielded (22S,25R)-3.beta.-hydroxy-16.beta.-acetoxy-22,26-N-Cbz-epiminocholestan-5,6-oxido-4-one (II). The second one yielded two products: (22S,25R)-3.beta.-hydroxy-16.beta.-ethoxy-22,26-N-Cbz-epimino-5.alpha.-cholestan-4-one and its 16.beta.-acetoxy homolog.
IT 129938-53-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and acetylation of)
RN 129938-53-0 CAPLUS
CN 16,28-Secosolanid-5-ene-28-carboxylic acid, 3,16-dihydroxy-, phenylmethyl ester, (3.beta.,16.beta.,22.alpha.,25.beta.)- (9CI) (CA INDEX NAME)

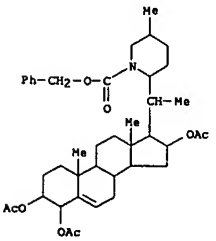


IT 144653-16-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and allylic acetoxylation of)
RN 144653-16-7 CAPLUS
CN 16,28-Secosolanid-5-ene-28-carboxylic acid, 3,16-bis(acetyloxy)-, phenylmethyl ester, (3.beta.,16.beta.,22.alpha.,25.beta.)- (9CI) (CA INDEX NAME)

L28 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)

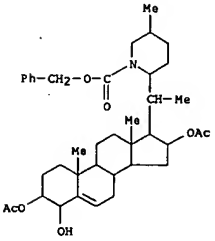


IT 144653-18-9P 144653-19-0P 144653-20-3P 144653-22-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)
RN 144653-18-9 CAPLUS
CN 16,28-Secosolanid-5-ene-28-carboxylic acid, 3,4,16-tris(acetyloxy)-, phenylmethyl ester, (3.beta.,4.alpha.,16.beta.,22.alpha.,25.beta.)- (9CI) (CA INDEX NAME)

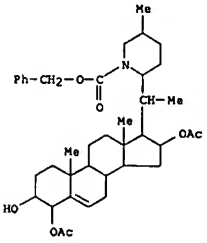


RN 144653-19-0 CAPLUS
CN 16,28-Secosolanid-5-ene-28-carboxylic acid, 3,16-bis(acetyloxy)-4-hydroxy-, phenylmethyl ester, (3.beta.,4.alpha.,16.beta.,22.alpha.,25.beta.)- (9CI) (CA INDEX NAME)

L28 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)

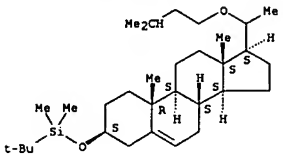


RN 144693-20-3 CAPLUS
CN 16,28-Secosolanid-5-ene-28-carboxylic acid, 4,16-bis(acetyloxy)-3-hydroxy-, phenylmethyl ester, (3.beta.,4.alpha.,16.beta.,22.alpha.,25.beta.)- (9CI) (CA INDEX NAME)



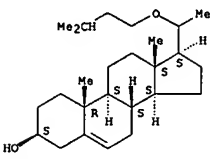
RN 144653-22-5 CAPLUS
CN 16,28-Secosolanidane-28-carboxylic acid, 3,16-bis(acetyloxy)-5,6-epoxy-4-oxo-, phenylmethyl ester, (3.beta.,16.beta.,22.alpha.,25.beta.)- (9CI) (CA INDEX NAME)

L28 ANSWER 28 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)
Absolute stereochemistry.



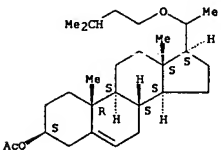
RN 161106-47-4 CAPLUS
CN Pregn-5-en-3-ol, 20-(3-methylbutoxy)-, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

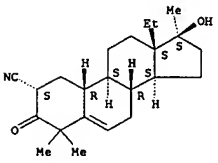


RN 161106-48-5 CAPLUS
CN Pregn-5-en-3-ol, 20-(3-methylbutoxy)-, acetate, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

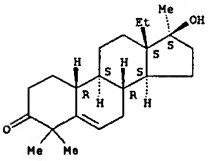


L28 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)



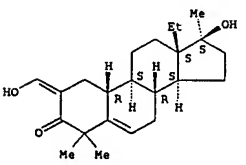
IT **160714-89-6P 160714-90-9P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and anti-early pregnancy activity of azastene and epostane analogs)
RN 160714-89-6 CAPLUS
CN Gon-5-en-3-one, 13-ethyl-17-hydroxy-4,4,17-trimethyl-, (17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



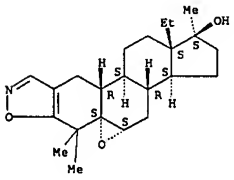
RN 160714-90-9 CAPLUS
CN Gon-5-en-3-one, 13-ethyl-17-hydroxy-2-(hydroxymethylene)-4,4,17-trimethyl-, (17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L28 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:80939 CAPLUS
DOCUMENT NUMBER: 122:106237
TITLE: Synthesis and anti-early pregnancy activity of azastene and epostane analogs
AUTHOR(S): Zhou, Yaosheng; Ma, Ruhong
CORPORATE SOURCE: Shanghai Inst. Pharmaceutical Industry, Shanghai, 200040, Peop. Rep. China
SOURCE: Zhongguo Yiyao Gongye Zazhi (1994), 25(4), 161-6
CODEN: ZYGZEA; ISSN: 1001-8255
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Title compds. 19-nor-18-homo azastene analogs, 19-nor-18-homo epostane analogs, and epostane 3-alkyl ethers were prepd.. Compds. I (R = Me, Et) exhibited anti-early pregnancy activity similar to that of epostane.
IT **160714-78-3P 160714-79-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); **RCT (Reactant)**; SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; RACT (Reactant or reagent)
(synthesis and anti-early pregnancy activity of azastene and epostane analogs)
RN 160714-78-3 CAPLUS
CN Gon-2-eno[2,3-d]isoxazol-17-ol, 5,6-epoxy-13-ethyl-4,4,17-trimethyl-, (5.alpha.,6.alpha.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

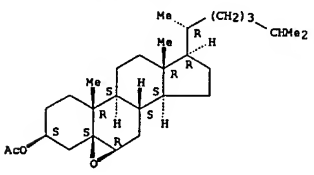


RN 160714-79-4 CAPLUS
CN Gon-5-ene-2-carbonitrile, 13-ethyl-17-hydroxy-4,4,17-trimethyl-3-oxo-, (2.alpha.,17.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L28 ANSWER 30 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:631140 CAPLUS
DOCUMENT NUMBER: 121:231140
TITLE: Synthesis of oxygenated cholesterols as structural mimics of phorbol ester-type tumor promoters
AUTHOR(S): Endo, Yasuyuki; Fukasawa, Hiroshi; Hashimoto, Yuichi; Shudo, Koichi
CORPORATE SOURCE: Fac. Pharm. Sci., Univ. Tokyo, Tokyo, 113, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1994), 42(3), 462-9
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors designed several oxygenated steroids in which functional groups including a hydrophobic group are arranged analogously to those of phorbol ester (12-O-tetradecanoylphorbol-13-acetate, TPA), with the aim of finding compds. with TPA-like activity, but having a different skeleton and a rigid conformation. The designed steroids, 1.beta.,5.alpha.-dihydroxy-3.beta.-hydroxymethylcholestan-6-one, 3.beta.,5.alpha.-dihydroxycholestan-6-one (I), 3.beta.-hydroxymethylcholestan-5.alpha.-ol-6-one, and 1.beta.,3.beta.,5.alpha.-trihydroxycholestan-6-one (II), were synthesized. A related oxygenated steroid isolated from soft coral, cholestane-1.beta.,3.beta.,5.alpha.,6.beta.-tetrol, was also synthesized. Among these analogs, II showed weak TPA-like activities in three biol. tests: inhibition of [3H]TPA binding to protein kinase C and to cytosolic-nuclear tumor promoter-binding protein (CN-TPBP), and induction of differentiation of human promyelocytic leukemia cells (HL-60) to monocyte-like cells. On the other hand, I was a specific ligand for CN-TPBP, but lacked the other TPA-like activities.
IT **1256-31-1P 4092-57-3P 150564-82-2P 158422-20-9P 158422-22-1P 158422-31-2P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. and reaction of, in prepn. of hydroxycholestanone phorbol ester analogs)
RN 1256-31-1 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 4092-57-3 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

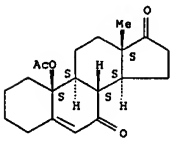
Absolute stereochemistry.

L28 ANSWER 14 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:494068 CAPLUS
DOCUMENT NUMBER: 127:185903
TITLE: Studies directed toward a mechanistic evaluation of aromatase inhibition by androst-5-ene-7,17-dione. Time-dependent inactivation by the 19-nor and 5.beta.-6.beta.-epoxy derivatives
AUTHOR(S): Numazawa, Mitsuteru; Tachibana, Mii
CORPORATE SOURCE: Tohoku College of Pharmacy, Sendai, 981, Japan
SOURCE: Steroids (1997), 62(7), 516-522
CODEN: STEDAM; ISSN: 0039-128X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To gain further insight into the mechanism for inactivation of aromatase by androst-5-ene-7,17-dione and its 19-nor analog , 10.beta.-oxygenated steroids and, .DELTA.1(10)-steroid, and 19-oxo-5.beta.,6.beta.-epoxy compd. were synthesized and tested for their ability to inhibit aromatase in human placental microsomes. All of the steroids studied inhibited the enzyme in a competitive manner with apparent Ki values ranging from 1.1 to 35 .mu.M. The .DELTA.1(10)-compd. was the most potent inhibitor among them. All of the inhibitors caused a time-dependent inactivation of aromatase in the presence of NADPH in air with the kinact values ranging from 0.036 to 0.190 min-1. The substrate androstenedione protected the inactivation, but a nucleophile, L-cysteine, did not, in each case. In contrast, each inhibitor did not cause the time-dependent inactivation in the absence of NADPH. These results show that the 5.beta.,6.beta.-epoxide and/or the dienone are not a reactive electrophile involved in the irreversible binding to the active site of aromatase during the mechanism-based inactivation caused by the suicide substrates androst-5-ene-7,17-dione and/or its 19-nor analog.

IT **194209-07-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); **RCT (Reactant)**; SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(androstenedione and its analogs mechanism for inactivation of aromatase)
RN 194209-07-9 CAPLUS
CN Estr-5-ene-7,17-dione, 10-(acetyloxy)- (9CI) (CA INDEX NAME)

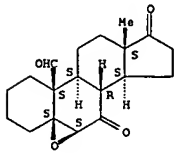
Absolute stereochemistry.



IT **194209-10-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

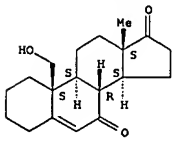
L28 ANSWER 14 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)
study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(androstenedione and its analogs mechanism for inactivation of aromatase)
RN 194209-10-4 CAPLUS
CN Androstan-19-al, 5,6-epoxy-7,17-dioxo-, (5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **145703-85-1**
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(androstenedione and its analogs mechanism for inactivation of aromatase)
RN 145703-85-1 CAPLUS
CN Androst-5-ene-7,17-dione, 19-hydroxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

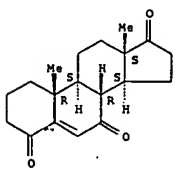


L28 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:349625 CAPLUS
DOCUMENT NUMBER: 127:77780
TITLE: Aromatase inactivation by a suicide substrate, androst-5-ene-4,7,17-trione: the 5.beta.,6.beta.-epoxy-19-oxo derivative, as a possible reactive electrophile irreversibly binding to the active site
AUTHOR(S): Numazawa, Mitsuteru; Tachibana, Mii
CORPORATE SOURCE: Tohoku College of Pharmacy, Sendai, 981, Japan
SOURCE: Biological & Pharmaceutical Bulletin (1997), 20(5), 490-495
CODEN: BPBLEO; ISSN: 0918-6158
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In order to understand the mechanism involved in the aromatase inactivation by androst-5-ene-4,7,17-trione, a suicide substrate of aromatase, 5.beta.,6.beta.-epoxyandrosta-4,7,17,19-tetraone (I) was synthesized as a candidate for a reactive electrophile involved in irreversible binding to the active site of aromatase upon treatment of 19-oxo-5-ene steroid with H2O2 in the presence of NaHCO3. Epoxide I was a competitive inhibitor of human placental aromatase (Ki = 34 .mu.M); moreover, it inactivated the enzyme in an active-site-directed manner in the absence of NADPH (KI = 36 .mu.M, a rate const. for inactivation (kinact) = 0.027 min-1). NADPH stimulated the inactivation rate, but the substrate androst-4-ene-3,17-dione blocked the inactivation. A nucleophile, L-cysteine, did not cause a significant change in the inactivation. When both epoxide I and its 19-Me analog were subjected sep. to a reaction with N-acetyl-L-cysteine in the presence of NaHCO3, the 19-oxo compd. I disappeared from the reaction mixt. more rapidly (t1/2 = 6.0 min) than the 19-Me analog (t1/2 = 16 min). On the basis of these results, it is suggested that the 5.beta.-6.beta.-epoxy-19-oxo steroid I may be the reactive electrophile that alkylates a nucleophilic residue of the amino acid of the active site.

IT **184435-18-5**, Androst-5-ene-4,7,17-trione
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); **RCT (Reactant)**; BIOL (Biological study); RACT (Reactant or reagent)
(aromatase inactivation by a suicide substrate, androst-5-ene-4,7,17-trione, and its 5.beta.,6.beta.-epoxy-19-oxo deriv. as a possible reactive electrophile irreversibly binding to the active site)
RN 184435-18-5 CAPLUS
CN Androst-5-ene-4,7,17-trione (9CI) (CA INDEX NAME)

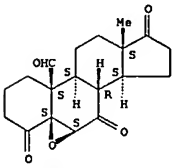
Absolute stereochemistry.



IT **191806-67-4P**

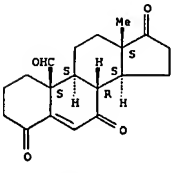
L28 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(aromatase inactivation by a suicide substrate, androst-5-ene-4,7,17-trione, and its 5.beta.,6.beta.-epoxy-19-oxo deriv. as a possible reactive electrophile irreversibly binding to the active site)
RN 191806-67-4 CAPLUS
CN Androstan-19-al, 5,6-epoxy-4,7,17-trioxo-, (5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **184435-23-2**
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(aromatase inactivation by a suicide substrate, androst-5-ene-4,7,17-trione, and its 5.beta.,6.beta.-epoxy-19-oxo deriv. as a possible reactive electrophile irreversibly binding to the active site)
RN 184435-23-2 CAPLUS
CN Androst-5-en-19-al, 4,7,17-trioxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **191806-68-5P 191806-69-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(aromatase inactivation by a suicide substrate, androst-5-ene-4,7,17-trione, and its 5.beta.,6.beta.-epoxy-19-oxo deriv. as a possible reactive electrophile irreversibly binding to the active site)
RN 191806-68-5 CAPLUS
CN Androstane-4,7,17-trione, 5,6-epoxy-, (5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

L28 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:340031 CAPLUS
DOCUMENT NUMBER: 131:185128
TITLE: Sterol synthesis. Preparation and characterization of fluorinated and deuterated analogs of oxygenated derivatives of cholesterol
AUTHOR(S): Li, Shengrong; Pang, Jihai; Wilson, William K.; Schroepfer, Jr., George J.
CORPORATE SOURCE: Departments of Biochemistry and Cell Biology and of Chemistry, Rice University, Houston, TX, 77005-1892, USA
SOURCE: Chemistry and Physics of Lipids (1999), 99(1), 33-71
CODEN: CPLIA4; ISSN: 0009-3084
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oxygenated sterols, including both autoxidn. products and sterol metabolites, have many important biol. activities. Identification and quantitation of oxysterols by chromatog. and spectroscopic methods is greatly facilitated by the availability of authentic stds., and deuterated and fluorinated analogs are valuable as internal stds. for quantitation. The authors describe the prepn., purifn. and characterization of 43 oxygenated sterols, including the 4.beta.-hydroxy, 7.alpha.-hydroxy, 7.beta.-hydroxy, 7-keto, and 19-hydroxy derivs. of cholesterol and their analogs with 25,26,26,26,27,27,27-heptafluoro (F7) and 26,26,26,27,27,27-hexadeuterio (d6) substitution. The 7.alpha.-hydroxy, 7.beta.-hydroxy, and 7-keto derivs. of (25R)-cholest-5-ene-3.beta.,26-diol and their 16,16-dideuterio analogs were also prepd. These d2-26-hydroxysterols and [16,16-2H2]-(25R)-cholest-5-ene-3.beta.,26-diol (I) were synthesized from [16,16-2H2]-(25R)-cholest-5-ene-3.beta.,26-diol diacetate (II), which can be prepd. from diosgenin. The highly specific deuterium incorporation at C-16 in I and II should be useful in mass spectral anal. of 26-hydroxycholesterol samples by isotope diln. methods. The .DELTA.5-3.beta.,7.alpha.,26- and .DELTA.5-3.beta.,7.beta.,26-triols were regioselectively oxidized/isomerized to the corresponding .DELTA.4-3-ketosteroids with cholesterol oxidase. Also described are 5,6.alpha.-epoxy-5.alpha.-cholestan-3.beta.-ol, its 5.beta.,6.beta.-isomer, cholestane-3.beta.,5.alpha.,6.beta.-triol, their F7 and d6 derivs., and d3-25-hydroxycholesterol, which was prepd. from 3.beta.-acetoxy-27-norcholest-5-en-25-one (III). The 43 oxysterols and most synthetic intermediates were isolated in high purity and characterized by chromatog. and spectroscopic methods, including mass spectrometry and NMR (NMR) spectroscopy. Detailed mass spectral assignments are presented, and 1H NMR stereochem. assignments are derived for the C-19 protons of 19-hydroxysterols and for the side chain protons of III.

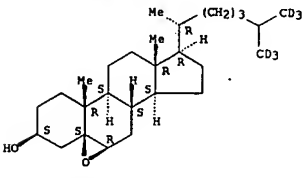
IT **161535-75-7P 240129-21-9P 240129-24-2P 240129-25-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of fluorinated and deuterated analogs of oxygenated derivs. of cholesterol)

RN 161535-75-7 CAPLUS
CN Cholestan-26,26,26,27,27,27-d6-3-ol, 5,6-epoxy-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L28 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)
CN Cholestan-26,26,26,27,27,27-d6-3-ol, 5,6-epoxy-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

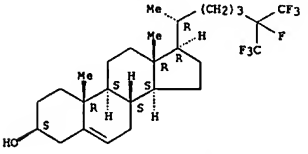
Absolute stereochemistry.



IT **153463-21-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and characterization of fluorinated and deuterated analogs of oxygenated derivs. of cholesterol)

RN 153463-21-9 CAPLUS
CN Cholest-5-en-3-ol, 25,26,26,26,26,27,27,27-heptafluoro-, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

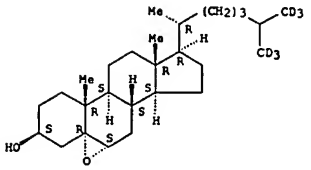


IT **1256-31-1P 4092-57-3P 153463-19-5P 161535-78-0P 215094-36-3P 240129-11-7P 240129-13-9P 240129-14-0P 240129-19-5P 240129-20-8P 240129-22-0P 240129-23-1P 240129-27-5P 240129-28-6P 240129-29-7P 240129-32-2P 240129-33-3P 240129-34-4P 240129-35-5P 240129-36-6P 240129-37-7P 240129-38-8P 240129-39-9P 240129-54-8P 240129-55-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and characterization of fluorinated and deuterated analogs of oxygenated derivs. of cholesterol)

RN 1256-31-1 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

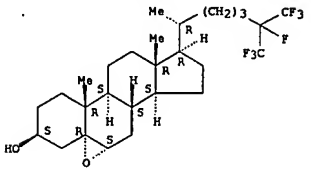
Absolute stereochemistry.

L28 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)



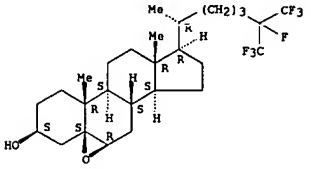
RN 240129-21-9 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-25,26,26,26,27,27,27-heptafluoro-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



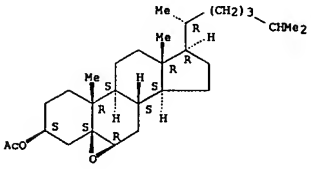
RN 240129-24-2 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-25,26,26,26,27,27,27-heptafluoro-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



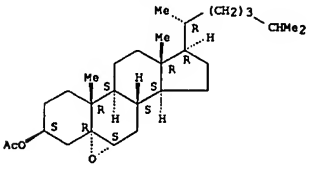
RN 240129-25-3 CAPLUS

L28 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2003 ACS (Continued)



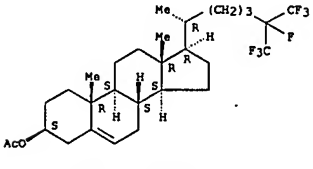
RN 4092-57-3 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 153463-19-5 CAPLUS
CN Cholest-5-en-3-ol, 25,26,26,26,26,27,27,27-heptafluoro-, acetate, (3.beta.)- (9CI) (CA INDEX NAME)

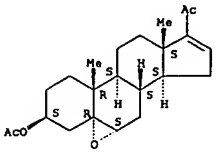
Absolute stereochemistry.



RN 161535-78-0 CAPLUS
CN Cholest-5-en-7-one-26,26,26,27,27,27-d6, 3-(acetyloxy)-, (3.beta.)- (9CI) (CA INDEX NAME)

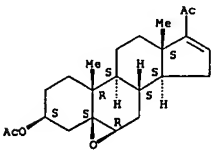
Absolute stereochemistry.

L19 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 66880-01-1 CAPLUS
CN Pregn-16-en-20-one, 3-(acetyloxy)-5,6-epoxy-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1991:164619 CAPLUS
DOCUMENT NUMBER: 114:164619
TITLE: Dioxirane mediated steroidal alkene epoxidations and oxygen insertion into carbon-hydrogen bonds
AUTHOR(S): Marples, Brian A.; Muxworthy, James P.; Baggaley, Keith H.
CORPORATE SOURCE: Dep. Chem., Univ. Technol., Loughborough/Leics., LE11 3TU, UK
SOURCE: Tetrahedron Letters (1991), 32(4), 533-6
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Dioxiranes, generated in situ from several ketones, epoxidized cholesterol or its acetate to the 5,6-epoxides in generally high yield. The .alpha.:.beta. ratio was close to 1 in contrast to a ratio of ca. 4 for peroxyacids. 4,4-Dimethylcholesterol and its acetate were oxidized to the 3,7-dioxo- and 7-oxo- derivs., resp., by dimethyldioxirane. Oxidn. of the steroidal alcs. were shown to proceed via an oxygen insertion mechanism.

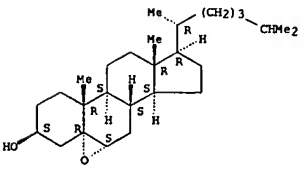
IT 133197-47-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(epoxidn. by, of cholesterol)
RN 133197-47-4 CAPLUS
CN Dioxiranecarboxylic acid, methyl-, ethyl ester (9CI) (CA INDEX NAME)

IT 74087-85-7, Dimethyldioxirane
RL: RCT (Reactant); RACT (Reactant or reagent)
(epoxidn. or oxidn. by, of cholesterol and derivs.)
RN 74087-85-7 CAPLUS
CN Dioxirane, dimethyl- (9CI) (CA INDEX NAME)

IT 1250-95-9P 1256-31-1P 4025-59-6P
4092-57-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 1250-95-9 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

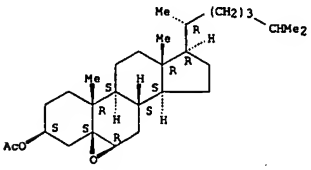
Absolute stereochemistry.

L19 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)



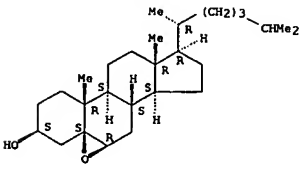
RN 1256-31-1 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 4025-59-6 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

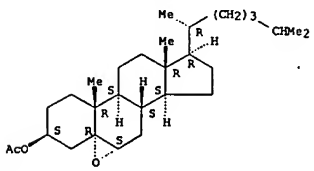
Absolute stereochemistry.



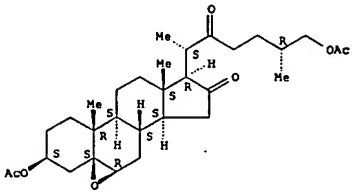
RN 4092-57-3 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, acetate, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L19 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)



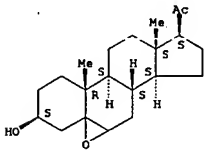
L19 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)



L19 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:102306 CAPLUS
DOCUMENT NUMBER: 118:102306
TITLE: Direct transformation of steroidal ethers into ketones by dimethyldioxirane
AUTHOR(S): Van Heerden, Fanie R.; Dixon, John T.; Holzapfel, Cedric W.
CORPORATE SOURCE: Dep. Chem. Biochem., Rand Afr. Univ., Auckland Park, 2006, S. Afr.
SOURCE: Tetrahedron Letters (1992), 33(48), 7399-402
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 118:102306
AB Treatment of the Me and benzyl ethers I (R1 = .alpha.-, .beta.-OMe, .alpha.-, .beta.-OCH2Ph; R2 = .alpha.-, .beta.-H, R3 = H, OAc, R4 = C8H17, CHMe(CH2)2CO2Me, COMe] of 3-hydroxy steroids with a soln. of dimethyldioxirane resulted in the formation of the corresponding ketones II in high yield.
IT 74087-85-7, Dimethyldioxirane
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. by, of steroidal ethers)
RN 74087-85-7 CAPLUS
CN Dioxirane, dimethyl- (9CI) (CA INDEX NAME)

IT 85552-32-5P 145802-03-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 85552-32-5 CAPLUS
CN Pregnan-20-one, 5,6-epoxy-3-hydroxy-, (3.beta.)- (9CI) (CA INDEX NAME)

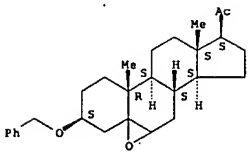
Absolute stereochemistry.



RN 145802-03-5 CAPLUS
CN Pregnan-20-one, 5,6-epoxy-3-(phenylmethoxy)-, (3.beta.)- (9CI) (CA INDEX NAME)

L19 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)

Absolute stereochemistry.



L19 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:152142 CAPLUS
DOCUMENT NUMBER: 116:152142
TITLE: Oxidation of natural targets by dioxiranes. Oxyfunctionalization of steroids
AUTHOR(S): Bovicelli, Paolo; Lupattelli, Paolo; Mincione, Enrico; Prencipe, Teresa; Curci, Ruggero
CORPORATE SOURCE: Dep. Chem., Univ. Rome "La Sapienza", Rome, I-00185, Italy
SOURCE: Journal of Organic Chemistry (1992), 57(7), 2182-4
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:152142
AB The oxyfunctionalization of 4-unsatd. steroids I (R = C8H17, Ac) with dimethyldioxirane (II) gave 80-90% 4,5-epoxides III with .alpha.:.beta. = 3:1 and 4:1, resp. The treatment of 5,16-pregnandien-20-one IV with II gave 95% 5,6-epoxide V with .beta.:.alpha. = 3:2. The treatment of 1,4-unsatd. steroid VI with II gave 80% 1,2-epoxide VII. The oxidn. of estrone acetate with II gave the corresponding 9.alpha.-hydroxy deriv.
IT 74087-85-7 115464-59-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxyfunctionalization by, of unsatd. steroids)
RN 74087-85-7 CAPLUS
CN Dioxirane, dimethyl- (9CI) (CA INDEX NAME)

RN 115464-59-0 CAPLUS
CN Dioxirane, methyl(trifluoromethyl)- (9CI) (CA INDEX NAME)

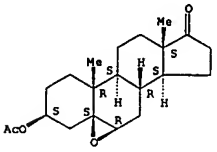
IT 14279-42-6P 66880-01-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 14279-42-6 CAPLUS
CN Pregn-16-en-20-one, 3-(acetyloxy)-5,6-epoxy-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L19 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:544863 CAPLUS
DOCUMENT NUMBER: 125:275502
TITLE: Preparation of dimethyldioxirane used in epoxidation of some natural compounds with carbon-carbon double bonds
AUTHOR(S): Sun, Rong-Qi; Lin, Tong; Huang, Der-Yin; Huang, De-Yin
CORPORATE SOURCE: Dep. Fine Chemical Technology, East China Univ. Sci. Technology, Shanghai, 200237, Peop. Rep. China
SOURCE: Youji Huaxue (1996), 16(4), 376-380
CODEN: YCHHDX; ISSN: 0253-2786
PUBLISHER: Kexue
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Dimethyldioxirane was prepd. with potassium monoperoxy sulfate and acetone. The dioxirane was successfully applied to the epoxidn. reactions of some natural compds. with carbon-carbon double bonds, such as carvone and androsterone derivs. The yields of the reaction were quite good and almost no byproducts were detected.
IT **74087-85-7P**, Dimethyldioxirane
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. of methyldioxirane and its use in epoxidn. of natural compds. with carbon-carbon double bonds)
RN 74087-85-7 CAPLUS
CN Dioxirane, dimethyl- (9CI) (CA INDEX NAME)

IT **6585-68-8P 14545-93-8P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(prepn. of methyldioxirane and its use in epoxidn. of natural compds. with carbon-carbon double bonds)
RN 6585-68-8 CAPLUS
CN Androstan-17-one, 3-(acetyloxy)-5,6-epoxy-, (3.beta.,5.beta.,6.beta.)- (9CI) (CA INDEX NAME)

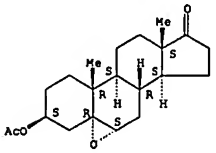
Absolute stereochemistry.



L19 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)

RN 14545-93-8 CAPLUS
CN Androstan-17-one, 3-(acetyloxy)-5,6-epoxy-, (3.beta.,5.alpha.,6.alpha.)- (9CI) .(CA INDEX NAME)

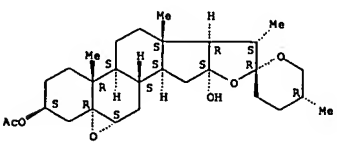
Absolute stereochemistry.



L19 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:242252 CAPLUS
DOCUMENT NUMBER: 122:214324
TITLE: Sapogenins and dimethyldioxirane: a new entry to cholestanes functionalized at the side chain
AUTHOR(S): Bovicelli, Paolo; Lupattelli, Paolo; Fracassi, Donatella
CORPORATE SOURCE: Dipartimento Chimica, Univ. La Sapienza, Roma, 5-00185, Israel
SOURCE: Tetrahedron Letters (1994), 35(6), 935-8
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 122:214324
AB A new and simple opening of the sapogenin spiroketal side chain by DMDO as oxyfunctionalizing agent is reported. Thus, tigogenin acetate, hecogenin, and 5,6-dibromodiosgenin were converted to the 16.alpha.-hydroxy derivs., which were subjected to acetolysis to give the 16,22-dioxo-27-acetoxycholestanes. Diosgenin acetate required 2 equiv. dimethyldioxirane because the hydroxylation was preceded by 5,6-epoxidn.
IT **74087-85-7**, Dimethyldioxirane
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reaction of sapogenins with dimethyldioxirane in prepn. of cholestanes functionalized at the side chain)
RN 74087-85-7 CAPLUS
CN Dioxirane, dimethyl- (9CI) (CA INDEX NAME)

IT **161979-69-7P 161979-72-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(reaction of sapogenins with dimethyldioxirane in prepn. of cholestanes functionalized at the side chain)
RN 161979-69-7 CAPLUS
CN Spirostan-3,16-diol, 5,6-epoxy-, 3-acetate, (3.beta.,5.alpha.,6.alpha.,25R)- (9CI) (CA INDEX NAME)

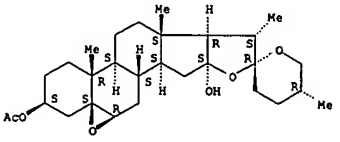
Absolute stereochemistry.



RN 161979-72-2 CAPLUS
CN Spirostan-3,16-diol, 5,6-epoxy-, 3-acetate, (3.beta.,5.beta.,6.beta.,25R)-

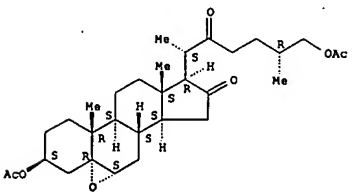
L19 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **161979-70-0P 161979-73-3P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(reaction of sapogenins with dimethyldioxirane in prepn. of cholestanes functionalized at the side chain)
RN 161979-70-0 CAPLUS
CN Cholestane-16,22-dione, 3,26-bis(acetyloxy)-5,6-epoxy-, (3.beta.,5.alpha.,6.alpha.,25R)- (9CI) (CA INDEX NAME)

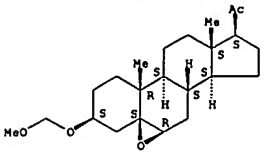
Absolute stereochemistry.



RN 161979-73-3 CAPLUS
CN Cholestane-16,22-dione, 3,25-bis(acetyloxy)-5,6-epoxy-, (3.beta.,5.beta.,6.beta.,25R)- (9CI) (CA INDEX NAME)

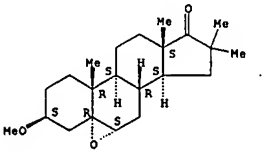
Absolute stereochemistry.

L19 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)



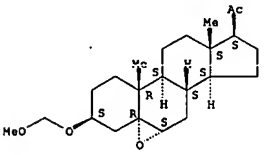
RN 488721-74-0 CAPLUS
CN Androstan-17-one, 5,6-epoxy-3-methoxy-16,16-dimethyl-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

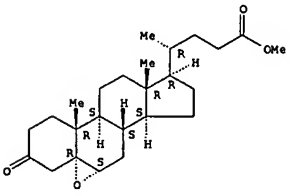


RN 488721-75-1 CAPLUS
CN Pregnan-20-one, 5,6-epoxy-3-(methoxymethoxy)-, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

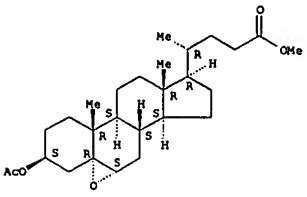


L19 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 335199-05-8 CAPLUS
CN Cholan-24-oic acid, 3-(acetyloxy)-5,6-epoxy-, methyl ester, (3.beta.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:211349 CAPLUS
DOCUMENT NUMBER: 134:311348
TITLE: The application of dimethyldioxirane for the selective oxidation of polyfunctional steroids
AUTHOR(S): Sasaki, Tomoaki; Nakamori, Ryusei; Yamaguchi, Takeru; Kasuga, Yuka; Iida, Takashi; Nambara, Toshio
CORPORATE SOURCE: Department of Chemistry, College of Humanities and Sciences, Nihon University, Tokyo, 156-8550, Japan
SOURCE: Chemistry and Physics of Lipids (2001), 109(2), 135-143
CODEN: CPLIA4; ISSN: 0009-3084
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:311348
AB Oxidn. and epoxidn. reactions of a series of structurally different steroids related to Me 5.beta.-cholanoates having hydroxyl groups and/or double bonds by treatment with dimethyldioxirane (DMDO) are described. Steroidal alcs., olefins, and unsatd. alcs. and conjugated enones with DMDO were transformed into ketones, epoxides, and epoxy-ketones, resp., in good isolated yields. The regio- and stereoselectivities for DMDO reaction differing from those obsd. for org. peracids, tert-Bu hydroperoxide and alk. hydrogen peroxide are also discussed.
IT 74087-85-7, Dimethyldioxirane
RL: RCT (Reactant); RACT (Reactant or reagent)
(application of dimethyldioxirane for selective oxidn. of polyfunctional steroids)
RN 74087-85-7 CAPLUS
CN Dioxirane, dimethyl- (9CI) (CA INDEX NAME)

IT 335199-03-6P 335199-05-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(application of dimethyldioxirane for selective oxidn. of polyfunctional steroids)
RN 335199-03-6 CAPLUS
CN Cholan-24-oic acid, 5,6-epoxy-3-oxo-, methyl ester, (5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L19 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:448517 CAPLUS
DOCUMENT NUMBER: 127:176600
TITLE: Selectivity of the epoxidation reaction of dimethyldioxirane with carbon carbon double bonds in some natural products
AUTHOR(S): Sun, Rong-Qi; Lin, Tong; Huang, De-Yin; Wu, Da-Jun; Xue, Zhong-Hua; Chen, Jian-Cun
CORPORATE SOURCE: Dep. Fine Chem. Technol., East China Univ. Sci. Technol., Shanghai, 200237, Peop. Rep. China
SOURCE: Gaodeng Xuexiao Huaxue Xuebao (1997), 18(4), 571-573
CODEN: KTHPDM; ISSN: 0251-0790
PUBLISHER: Gaodeng Jiaoyu Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The acetone soln. of dimethyldioxirane was prepd. with KHSO5 and acetone. This soln. can be kept at low temp. (-20.degree.C) for days. It is much convenient to use the oxidant for the epoxidn. of carbon carbon double bonds in some unsatd. natural products. Five unsatd. compds., e.g., carvone, cholesterol, were oxidized to the corresponding epoxides with dimethyldioxirane and the reaction selectivity was discussed.
IT 74087-85-7, Dimethyldioxirane
RL: RCT (Reactant); RACT (Reactant or reagent)
(selectivity of the epoxidn. reaction of dimethyldioxirane with carbon carbon double bonds in some natural products)
RN 74087-85-7 CAPLUS
CN Dioxirane, dimethyl- (9CI) (CA INDEX NAME)

IT 55700-78-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(selectivity of the epoxidn. reaction of dimethyldioxirane with carbon carbon double bonds in some natural products)
RN 55700-78-2 CAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.